# COMMUNICATION METHOD AND APPARATUS, AND STORAGE MEDIUM

This application claims priority to Chinese Patent Application No. 202410253272.6, filed with the China National Intellectual Property Administration on March 5, 2024 and entitled "COMMUNICATION METHOD AND APPARATUS, AND STORAGE MEDIUM", which is incorporated herein by reference in its entirety.

## TECHNICAL FIELD

**[0001]** Embodiments of this application relate to the field of communication technologies, and in particular, to a communication method and apparatus, and a storage medium.

## BACKGROUND

**[0002]** Currently, a terminal device in a communication system is involved in operations such as cell reselection measurement, cell reselection and/or handover, and beam measurement in a cell, to ensure quality monitoring of the cell and to support mobility of the terminal device in the cell. However, when the terminal device is located in a satellite communication system, the area served by a satellite in the satellite communication system is much larger than the area served by a terrestrial base station in a terrestrial communication system, and as the position of the satellite continuously changes, the area served by the satellite changes accordingly. These characteristics of the satellite communication system make it difficult for the terminal device to perform operations such as cell reselection measurement, cell reselection and/or handover, and beam measurement, resulting in problems such as low accuracy of cell reselection measurement and cell reselection and/or handover, and high overhead for beam measurement by the terminal device.

**[0003]** Therefore, how to better support the terminal device in performing cell reselection measurement, cell reselection and/or handover, and/or beam measurement is an urgent problem to be resolved.

## SUMMARY

**[0004]** Embodiments of this application provide a communication method and apparatus, and a storage medium, to better support a terminal device in performing cell reselection measurement, cell reselection and/or handover, and/or beam measurement.

**[0005]** According to a first aspect, an embodiment of this application provides a

communication method. The method may be performed by a first apparatus, and the first apparatus may be a terminal device or a component (for example, a chip or a chip system) in the terminal device. The following uses an example in which the terminal device performs the method for description.

**[0006]** The method includes: The terminal device receives first information, where the first information is information indicating the terminal device to perform measurement, and/or cell reselection, and/or handover, and the information corresponds to an area of a serving cell of the terminal device or a beam of the serving cell. The terminal device determines, based on the first information, whether to perform measurement, and/or cell reselection, and/or handover.

**[0007]** According to the foregoing solution, the terminal device uses a method in which different areas of the serving cell correspond to different information indicating the terminal device to perform measurement, and/or cell reselection, and/or handover, so that the terminal device can determine, based on an area in which the terminal device is located, information corresponding to the area, and determine, based on the information, whether to initiate cell reselection measurement, and/or cell reselection, and/or handover, thereby alleviating a problem of low accuracy, caused by irregular edges of the serving cell, when the terminal device determines whether to perform measurement, and/or cell reselection, and/or handover. In the method, for cell reselection measurement, it can be ensured that the terminal device initiates measurement on a neighboring cell only when the terminal device reaches an edge of coverage of the serving cell or approaches coverage of the neighboring cell, so that the terminal device does not perform measurement on a distant neighboring cell, thereby reducing unnecessary measurement overheads of the terminal device. In addition, it can be ensured that the terminal device can initiate measurement on the neighboring cell in a timely manner when approaching the coverage of the neighboring cell, to support subsequent cell reselection determining in a timely manner, thereby ensuring mobility performance. For cell reselection and/or handover, it is ensured that reselection/handover to a neighboring cell is considered only when the terminal device is within coverage of the neighboring cell, to avoid a reselection/handover failure caused by premature reselection/handover performed by the terminal device. In addition, it can be ensured that when the terminal device moves away from coverage of the serving cell and has reached the coverage of the neighboring cell, the terminal device can perform reselection/handover in a timely manner to hand over to an appropriate cell, thereby ensuring mobility performance.

**[0008]** Optionally, the first information includes a distance threshold. The determining, based on the first information, whether to perform measurement, and/or cell reselection, and/or handover includes: determining, based on the distance threshold, whether to perform measurement, and/or cell reselection, and/or handover.

**[0009]** Optionally, the determining, based on the distance threshold, whether to perform measurement, and/or cell reselection, and/or handover includes: if a distance from the terminal device to a reference point of the serving cell is greater than or equal to the distance threshold, determining that the terminal device is to perform measurement, and/or cell reselection, and/or handover; or if a difference between the distance from the terminal device to the reference point of the serving cell and a distance from the terminal device to a reference point of a neighboring cell is greater than or equal to the distance threshold, determining that the terminal device is to perform measurement, and/or cell reselection, and/or handover.

**[0010]** Optionally, the first information indicates a correspondence between a first area or a first beam and the distance threshold, the first area is a partial area of the serving cell, and the first beam is a beam of the serving cell.

**[0011]** Optionally, the information corresponding to the beam of the serving cell is information corresponding to a beam set of the serving cell, and the beam set includes one or more beams.

**[0012]** Optionally, the beam set is a synchronization signal/physical broadcast channel block burst set SSB burst.

**[0013]** Optionally, the first information indicates the distance threshold corresponding to a second beam of the serving cell. The receiving the first information includes: receiving the first information via the second beam.

**[0014]** Optionally, the distance threshold includes a first distance threshold used to trigger performing measurement, and/or a second distance threshold used to perform cell reselection, and/or a third distance threshold used to perform handover.

**[0015]** According to the foregoing solution, the terminal device uses a method in which different areas of the serving cell correspond to different distance thresholds, so that the terminal device can determine, based on an area in which the terminal device is located, a distance threshold corresponding to the area, and determine, based on the distance threshold, whether to initiate cell reselection measurement, and/or cell reselection, and/or handover. Different areas correspond to different distance thresholds, so that a problem, caused by irregular edges of the serving cell, that determining accuracy of the terminal device is affected by a single distance threshold is alleviated.

**[0016]** Optionally, the first information includes information about a second area or a third beam of the serving cell for performing measurement, and/or cell reselection, and/or handover.

**[0017]** The determining, based on the first information, whether the terminal device is to perform measurement, and/or cell reselection, and/or handover includes: if the terminal device is located in the second area or on the third beam, determining that the terminal device is to perform measurement, and/or cell reselection, and/or handover.

**[0018]** Optionally, if the first information includes the information about the second area, the

information about the second area includes an identifier of the second area; or if the first information includes the information about the third beam, the information about the third beam includes an identifier of the third beam.

**[0019]** Optionally, the first information includes a bitmap, and one bit in the bitmap corresponds to one beam of the serving cell. If a value of a bit in the beam bitmap is a first value, a beam corresponding to the bit is the third beam; or if a value of a bit in the beam bitmap is a second value, a beam corresponding to the bit is not the third beam.

**[0020]** Optionally, the first information indicates whether a fourth beam of the serving cell is the third beam. The receiving the first information includes: receiving the first information via the fourth beam.

**[0021]** According to the foregoing solution, the terminal device uses a method in which the information about the second area or the third beam of the serving cell for performing measurement, and/or cell reselection, and/or handover is obtained, so that the terminal device can determine, based on an area in which the terminal device is located or an area beam on which the terminal device is located, whether the area or the beam is the second area or the third beam for which measurement, and/or cell reselection, and/or handover need/needs to be performed. If the area or the beam is the second area or the third beam for which measurement, and/or cell reselection, and/or handover need/needs to be performed, the terminal device is to perform cell reselection measurement, and/or cell reselection, and/or handover, thereby alleviating a problem, caused by irregular edges of the serving cell, of low determining accuracy of the terminal device.

**[0022]** Optionally, the serving cell is a non-terrestrial network NTN cell.

**[0023]** According to a second aspect, an embodiment of this application provides a communication method. The method may be performed by a second apparatus, and the second apparatus may be a network device or a component (for example, a chip or a chip system) in the network device. The following uses an example in which the network device performs the method for description.

**[0024]** The method includes: The network device sends first information, where the first information is information indicating a terminal device to perform measurement, and/or cell reselection, and/or handover, and the information corresponds to an area of a serving cell of the terminal device or a beam of the serving cell.

**[0025]** Beneficial effects of this solution are the same as those of the corresponding method in the first aspect. Details are not described herein again.

**[0026]** Optionally, the first information includes a distance threshold, and the distance threshold is used to determine whether to perform measurement, and/or cell reselection, and/or handover.

**[0027]** Optionally, if a distance from the terminal device to a reference point of the serving cell is greater than or equal to the distance threshold, it is determined that the terminal device is to perform measurement, and/or cell reselection, and/or handover; or if a difference between the distance from the terminal device to the reference point of the serving cell and a distance from the terminal device to a reference point of a neighboring cell is greater than or equal to the distance threshold, it is determined that the terminal device is to perform measurement, and/or cell reselection, and/or handover.

**[0028]** Optionally, the first information indicates a correspondence between a first area or a first beam and the distance threshold, the first area is a partial area of the serving cell, and the first beam is a beam of the serving cell.

**[0029]** Optionally, the information corresponding to the beam of the serving cell is information corresponding to a beam set of the serving cell, and the beam set includes one or more beams.

**[0030]** Optionally, the beam set is a synchronization signal/physical broadcast channel block burst set SSB burst.

**[0031]** Optionally, the first information indicates the distance threshold corresponding to a second beam of the serving cell. The sending the first information includes: sending the first information via the second beam.

**[0032]** Optionally, the distance threshold includes a first distance threshold used to trigger performing measurement, and/or a second distance threshold used to perform cell reselection, and/or a third distance threshold used to perform handover.

**[0033]** Beneficial effects of the foregoing solution are the same as those of the corresponding method in the first aspect. Details are not described herein again.

**[0034]** Optionally, the first information includes information about a second area or a third beam of the serving cell for performing measurement, and/or cell reselection, and/or handover.

**[0035]** Optionally, if the first information includes the information about the second area, the information about the second area includes an identifier of the second area; or if the first information includes the information about the third beam, the information about the third beam includes an identifier of the third beam.

**[0036]** Optionally, the first information includes a bitmap, and one bit in the bitmap corresponds to one beam of the serving cell. If a value of a bit in the beam bitmap is a first value, a beam corresponding to the bit is the third beam; or if a value of a bit in the beam bitmap is a second value, a beam corresponding to the bit is not the third beam.

**[0037]** Optionally, the first information indicates whether a fourth beam of the serving cell is the third beam. The sending the first information includes: sending the first information via the fourth beam.

**[0038]** Beneficial effects of the foregoing solution are the same as those of the corresponding method in the first aspect. Details are not described herein again.

**[0039]** Optionally, the serving cell is a non-terrestrial network NTN cell.

**[0040]** According to a third aspect, an embodiment of this application provides a communication method. The method may be performed by a first apparatus, and the first apparatus may be a terminal device or a component (for example, a chip or a chip system) in the terminal device. The following uses an example in which the terminal device performs the method for description.

**[0041]** The method includes: The terminal device receives second information, where the second information indicates beam layout information of a serving cell of the terminal device.

**[0042]** Optionally, the method further includes: The terminal device performs measurement based on the beam layout information.

**[0043]** According to the method provided above, the beam layout information in the serving cell is sent to the terminal device, so that the terminal device can determine, based on a fifth beam on which the terminal device is located and the beam layout information, a beam that needs to be subsequently measured, thereby narrowing a beam range in which the terminal device performs measurement, reducing redundant measurement, and reducing unnecessary power consumption for measurement of the terminal device.

**[0044]** Optionally, the beam layout information includes at least one of the following: a sorting rule for beams of the serving cell and width information of a beam set of the serving cell.

**[0045]** Optionally, the sorting rule for the beams of the serving cell includes a rule for sorting beam identifiers in ascending order or a rule for sorting beam identifiers in descending order.

**[0046]** Optionally, the width information of the beam set includes a quantity of columns occupied by the beams in the beam set or a quantity of rows occupied by the beams in the beam set.

**[0047]** Optionally, the performing measurement based on the beam layout information includes: The terminal device determines a sixth beam based on the fifth beam on which the terminal device is located and the beam layout information. The terminal device performs measurement on the fifth beam and/or the sixth beam.

**[0048]** Optionally, the sixth beam is a beam adjacent to the fifth beam, or the sixth beam is a beam in a beam set adjacent to the fifth beam.

**[0049]** Optionally, the beam set is a synchronization signal/physical broadcast channel block burst set SSB burst.

**[0050]** Optionally, the serving cell is a non-terrestrial network NTN cell.

**[0051]** According to a fourth aspect, an embodiment of this application provides a

communication method. The method may be performed by a second apparatus, and the second apparatus may be a network device or a component (for example, a chip or a chip system) in the network device. The following uses an example in which the network device performs the method for description.

**[0052]** The method includes: The network device sends second information, where the second information indicates beam layout information of a serving cell of a terminal device.

**[0053]** Beneficial effects of the method provided above are the same as those of the corresponding method in the third aspect. Details are not described herein again.

**[0054]** Optionally, the beam layout information includes at least one of the following: a sorting rule for beams of the serving cell and width information of a beam set of the serving cell.

**[0055]** Optionally, the sorting rule for the beams of the serving cell includes a rule for sorting beam identifiers in ascending order or a rule for sorting beam identifiers in descending order.

**[0056]** Optionally, the width information of the beam set includes a quantity of columns occupied by the beams in the beam set or a quantity of rows occupied by the beams in the beam set.

**[0057]** Optionally, the beam set is a synchronization signal/physical broadcast channel block burst set SSB burst.

**[0058]** Optionally, the serving cell is a non-terrestrial network NTN cell.

**[0059]** According to a fifth aspect, an embodiment of this application provides a communication apparatus. The communication apparatus includes a module configured to perform the method according to any one of implementations of the first aspect.

**[0060]** According to a sixth aspect, an embodiment of this application provides a communication apparatus. The communication apparatus includes a module configured to perform the method according to any one of implementations of the second aspect.

**[0061]** According to a seventh aspect, an embodiment of this application provides a communication apparatus. The communication apparatus includes a module configured to perform the method according to any one of implementations of the third aspect.

**[0062]** According to an eighth aspect, an embodiment of this application provides a communication apparatus. The communication apparatus includes a module configured to perform the method according to any one of implementations of the fourth aspect.

**[0063]** According to a ninth aspect, an embodiment of this application provides a communication apparatus. The apparatus includes a processor, and the processor is configured to implement the method according to any one of implementations of the first aspect, any one of implementations of the second aspect, any one of implementations of the third aspect, or any one of implementations of the fourth aspect.

**[0064]** Optionally, the communication apparatus further includes a memory. The processor is coupled to the memory. The memory stores computer-executable instructions. The processor executes the computer-executable instructions stored in the memory, to implement the method according to any one of implementations of the first aspect, any one of implementations of the second aspect, any one of implementations of the third aspect, or any one of implementations of the fourth aspect.

**[0065]** Optionally, the communication apparatus further includes a transceiver. The processor is coupled to the transceiver. The transceiver communicates and interacts with an external device.

**[0066]** According to a tenth aspect, an embodiment of this application provides a chip. The chip stores a computer program, and when the computer program is executed by the chip, the method according to any one of implementations of the first aspect, any one of implementations of the second aspect, any one of implementations of the third aspect, or any one of implementations of the fourth aspect is implemented.

**[0067]** According to an eleventh aspect, an embodiment of this application provides a computer-readable storage medium. The computer-readable storage medium stores a computer program, and when the computer program is executed by a processor, the method according to any one of implementations of the first aspect, any one of implementations of the second aspect, any one of implementations of the third aspect, or any one of implementations of the fourth aspect is implemented.

**[0068]** According to a twelfth aspect, an embodiment of this application provides a computer program product. The computer program product includes a computer program, and when the computer program is run, the method according to any one of implementations of the first aspect, any one of implementations of the second aspect, any one of implementations of the third aspect, or any one of implementations of the fourth aspect is implemented.

**[0069]** According to a thirteenth aspect, an embodiment of this application provides a communication system. The communication system includes a first apparatus and a second apparatus, the first apparatus is the foregoing terminal device, and the second apparatus is the foregoing network device. The first apparatus may implement the method according to any one of implementations of the first aspect or any one of implementations of the third aspect, and the second apparatus may implement the method according to any one of implementations of the second aspect or any one of implementations of the fourth aspect.

## BRIEF DESCRIPTION OF DRAWINGS

**[0070]** FIG. 1 is a communication system to which an embodiment of this application is

applied;

**[0071]** FIG. 2 is a diagram of a scenario of a transparent architecture according to this application;

**[0072]** FIG. 3 is a diagram of a scenario of a regenerative architecture according to this application;

**[0073]** FIG. 4 is a diagram of a scenario of a quasi-earth-fixed NTN cell according to this application;

**[0074]** FIG. 5 is a diagram of a scenario of an earth-moving NTN cell according to this application;

**[0075]** FIG. 6 is a diagram of scenarios of cell reselection measurement and cell reselection/handover according to this application;

**[0076]** FIG. 7 is a diagram of a beam of an NTN cell according to an embodiment of this application;

**[0077]** FIG. 8 is a schematic flowchart of a communication method according to an embodiment of this application;

**[0078]** FIG. 9 is a diagram of area division according to an embodiment of this application;

**[0079]** FIG. 10 is a schematic flowchart of another communication method according to an embodiment of this application;

**[0080]** FIG. 11 is a diagram of a bitmap according to an embodiment of this application;

**[0081]** FIG. 12 is a schematic flowchart of still another communication method according to an embodiment of this application;

**[0082]** FIG. 13 is a schematic flowchart of yet another communication method according to an embodiment of this application;

**[0083]** FIG. 14 is a diagram of a structure of a beam layout according to an embodiment of this application;

**[0084]** FIG. 15 is a diagram of a structure of a communication apparatus according to an embodiment of this application;

**[0085]** FIG. 16 is a diagram of a structure of another communication apparatus according to an embodiment of this application;

**[0086]** FIG. 17 is a diagram of a structure of still another communication apparatus according to an embodiment of this application;

**[0087]** FIG. 18 is a diagram of a structure of yet another communication apparatus according to an embodiment of this application; and

**[0088]** FIG. 19 is a diagram of a structure of yet another communication apparatus according to an embodiment of this application.

## DESCRIPTION OF EMBODIMENTS

**[0089]** To clearly describe technical solutions in embodiments of this application, in embodiments of this application, the terms such as "example" or "for example" are used to represent giving an example, an illustration, or a description. Any embodiment or design scheme described as an "example" or "for example" in this application should not be explained as being more preferred or having more advantages than another embodiment or design scheme. To be precise, use of the terms such as "example" or "for example" is intended to present a relevant concept in a specific manner.

**[0090]** In embodiments of this application, "at least one" means one or more, and "a plurality of" means two or more. "And/or" describes an association relationship between associated objects, and indicates that three relationships may exist. For example, A and/or B may indicate the following three cases: Only A exists, both A and B exist, and only B exists, where A and B may be in a singular form or a plural form. The character "/" generally indicates an "or" relationship between the associated objects. "At least one of the following items (pieces)" or a similar expression thereof indicates any combination of these items, including a single item (piece) or any combination of a plurality of items (pieces). For example, at least one item (piece) of a, b, or c may indicate: a, b, c, a and b, a and c, b and c, or a, b, and c, where a, b, and c may be singular or plural.

**[0091]** It should be noted that "when..." in embodiments of this application may be an instant when a case occurs, or may be a period of time after a case occurs. This is not specifically limited in embodiments of this application. In addition, a display interface provided in embodiments of this application is merely an example, and the display interface may further include more or less content.

**[0092]** The technical solutions in embodiments of this application may be applied to various communication systems, for example, a long term evolution (long term evolution, LTE) system, an LTE frequency division duplex (frequency division duplex, FDD) system, an LTE time division duplex (time division duplex, TDD) system, a universal mobile telecommunications system (universal mobile telecommunications system, UMTS), a worldwide interoperability for microwave access (worldwide interoperability for microwave access, WiMAX) communication system, a 5th generation (5th generation, 5G) system or new radio (new radio, NR), and a new system that may appear in the future.

**[0093]** For ease of understanding embodiments of this application, a communication system applicable to embodiments of this application is first described in detail.

**[0094]** FIG. 1 is a communication system to which an embodiment of this application is

applied. As shown in FIG. 1, the communication system is a non-terrestrial network (Non-Terrestrial Network, NTN) architecture, and the communication system includes a network device and a terminal device.

**[0095]** The network device may communicate with the terminal device via a radio link. When the network device is used as a communication transmit end, the terminal device may be used as a communication receive end. When the network device is used as a communication receive end, the terminal device may be used as a communication transmit end. Quantities of network devices and terminal devices included in the communication system are not limited in embodiments of this application. In addition, it should be understood that FIG. 1 is merely a diagram. The communication system may further include another network device. This is not limited in this application, and is not shown in FIG. 1.

**[0096]** The terminal device in embodiments of this application may also be referred to as user equipment (user equipment, UE), a mobile console (mobile station, MS), a mobile terminal (mobile terminal, MT), an access terminal, a subscriber unit, a subscriber station, a remote station, a remote terminal, a mobile device, a user terminal, a terminal, a wireless communication device, a user agent, a user apparatus, or the like.

**[0097]** The terminal device may be a device that provides voice/data connectivity for a user, for example, a handheld device or a vehicle-mounted device that has a wireless connection function. Currently, examples of some terminal devices include: a mobile phone (mobile phone), a tablet computer, a notebook computer, a palmtop computer, a mobile internet device (mobile internet device, MID), a wearable device, a virtual reality (virtual reality, VR) device, an augmented reality (augmented reality, AR) device, a wireless terminal in industrial control (industrial control), a wireless terminal in self-driving (self-driving), a wireless terminal in remote medical surgery (remote medical surgery), a wireless terminal in a smart grid (smart grid), a wireless terminal in transportation safety (transportation safety), a wireless terminal in a smart city (smart city), a wireless terminal in a smart home (smart home), a cellular phone, a cordless phone, a session initiation protocol (session initiation protocol, SIP) phone, a wireless local loop (wireless local loop, WLL) station, a personal digital assistant (personal digital assistant, PDA), a handheld device having a wireless communication function, a compute device or another processing device connected to a wireless modem, a vehicle-mounted device, a wearable device, a terminal device in a 5G network, a terminal device in a future evolved public land mobile network (public land mobile network, PLMN), or the like. This is not limited in this application.

**[0098]** By way of example, and not limitation, in this application, the terminal device may be a terminal device in an internet of things (internet of things, IoT) system. The internet of things is an important part of future information technology development. A main technical feature of the

internet of things is to connect an object to a network by using a communication technology, to implement an intelligent network for human-machine interconnection and thing-thing interconnection. For example, the terminal device in embodiments of this application may be a wearable device. The wearable device may also be referred to as a wearable intelligent device, and is a general term of a wearable device that is intelligently designed and developed for daily wear by using a wearable technology, for example, glasses, gloves, a watch, clothing, and shoes. The wearable device is a portable device that can be directly worn on a body or integrated into clothes or an accessory of a user. The wearable device is not only a hardware device, but may also implement a powerful function through software support, data exchange, and cloud interaction. In a broad sense, wearable intelligent devices include full-featured and large-sized devices that can implement complete or partial functions without depending on smartphones, such as smart watches or smart glasses, and devices that dedicated to only one type of application function and need to work with other devices such as smartphones, such as various smart bands or smart jewelry for monitoring physical signs.

**[0099]** By way of example, and not limitation, in embodiments of this application, the terminal device may alternatively be a terminal device in machine-type communication (machine-type communication, MTC). In addition, the terminal device may alternatively be a vehicle-mounted module, a vehicle-mounted assembly, a vehicle-mounted component, a vehicle-mounted chip, a vehicle-mounted unit, or the like that is built in a vehicle as one or more components or units. The vehicle may implement the method provided in this application by using the vehicle-mounted module, the vehicle-mounted assembly, the vehicle-mounted component, the vehicle-mounted chip, the vehicle-mounted unit, or the like that is built in a vehicle. Therefore, embodiments of this application may also be applied to an internet of vehicles, for example, vehicle-to-everything (vehicle-to-everything, V2X), a long term evolution-vehicle (long term evolution-vehicle, LTE-V) technology, a vehicle-to-vehicle (vehicle-to-vehicle, V2V) technology, and the like.

**[00100]** The network device in this application may be a device that communicates with a terminal device, and for example, includes a radio access network (radio access network, RAN) device. The radio access network device may be a base station (base station), an evolved NodeB (evolved NodeB, eNodeB), a transmission reception point (transmission reception point, TRP), a sending node (transmission point, TP), a next generation NodeB (next generation NodeB, gNB) in a 5th generation (5th generation, 5G) mobile communication system, a next generation NodeB in a 6th generation (6th generation, 6G) mobile communication system, a base station in a future mobile communication system, an access node in a Wi-Fi system, or the like; or may be a module or a unit that completes a part of functions of a base station, for example, may be a central unit (central unit, CU), or may be a distributed unit (distributed unit, DU), or may be a radio unit (radio

unit, RU). The CU herein implements functions of a radio resource control protocol and a packet data convergence protocol (packet data convergence protocol, PDCP) of the base station, and may further implement a function of a service data adaptation protocol (service data adaptation protocol, SDAP). The DU implements functions of a radio link control layer and a medium access control (medium access control, MAC) layer of the base station, and may further implement a part or all of functions of a physical layer. For a detailed description of the foregoing protocol layers, refer to technical specifications related to the 3rd generation partnership project (3rd generation partnership project, 3GPP). The CU and the DU may be separately disposed, or may be included in a same network element, for example, a baseband unit (baseband unit, BBU). The RU may be included in a radio frequency device or a radio frequency unit, for example, included in a remote radio unit (remote radio unit, RRU), an active antenna unit (active antenna unit, AAU), or a remote radio head (remote radio head, RRH). In different systems, the CU, the DU, or the RU may alternatively have different names, but a person skilled in the art may understand meanings of the names. For example, in an ORAN system, the CU may also be referred to as an open CU (open-CU, O-CU), the DU may also be referred to as an open DU (open-DU, O-DU), and the RU may also be referred to as an open RU (open-RU, O-RU). Any one of the CU (or a CU control plane (CU control plane, CU-CP)), a CU user plane (CU user plane, CU-UP), the DU, and the RU in this application may be implemented by using a software module, a hardware module, or a combination of a software module and a hardware module.

**[00101]** The foregoing NTN is a general term for networks involving aerial objects, including a satellite communication network, a high altitude platform system (High Altitude Platform Station, HAPS), and an air-to-ground network. Main application scenarios of the NTN include an area with poor terrestrial coverage, marine communication, public safety needs, inter-aircraft communication, railways, and the like, aiming to provide a mobile broadband service for users.

**[00102]** In an NTN scenario, when the network device is a base station, the network device in this application may be a base station in a transparent architecture, or may be a base station in a regenerative architecture.

**[00103]** FIG. 2 is a diagram of a scenario of a transparent architecture according to this application. As shown in FIG. 2, when a network device is a base station in the transparent architecture, a satellite is only responsible for signal forwarding and has no data processing capability. The base station is located on the ground, and the satellite is connected to the base station through a gateway on the ground. Signal transmission is performed between a terminal device and the base station through the satellite, and a data processing function is still in the base station. In this case, a link between the satellite and the terminal device is referred to as a service link (service link), and a link between the satellite and the base station is a feeder link (feeder link).

**[00104]** FIG. 3 is a diagram of a scenario of a regenerative architecture according to this application. As shown in FIG. 3, when a network device is a base station in a regenerative architecture, a satellite has all or a part of functions of the base station, that is, the satellite may perform data processing. Specifically, there are two cases: An entire base station is located on the satellite, and a distributed unit (Distributed Unit, DU) of the base station is located on the satellite. In this case, a link between the satellite/base station and a terminal device is a service link (service link). The satellite herein may be a low earth orbit (Low Earth Orbit, LEO) satellite, a medium earth orbit (Medium Earth Orbit, MEO) satellite, a geostationary earth orbit (Geostationary Earth Orbit, GEO) satellite, or the like.

**[00105]** The network device provides a service for a cell, and the terminal device communicates with the cell by using a transmission resource (for example, a frequency domain resource or a spectrum resource) allocated by the network device. The cell may belong to a macro base station (for example, a macro eNB or a macro gNB), or may belong to a base station corresponding to a small cell (small cell). The small cell herein may include a metro cell (metro cell), a micro cell (micro cell), a pico cell (pico cell), a femto cell (femto cell), or the like. These small cells have characteristics of a small coverage range and low transmit power, and are applicable to providing a high-rate data transmission service.

**[00106]** An NTN cell in this application may be an NTN cell of types such as an earth-fixed (earth-fixed) type, a quasi-earth-fixed (quasi-earth-fixed) type, or an earth-moving (earth-moving) type. An NTN cell provided by the GEO satellite is an earth-fixed NTN cell, that is, a coverage area of the NTN cell is fixed to a specific area on the ground. The LEO satellite and the MEO satellite may provide quasi-earth-fixed NTN cells, that is, a coverage area of the NTN cell is fixed to a specific area on the ground within a period of time, and changes to another area on the ground after a period of time. FIG. 4 is a diagram of a scenario of a quasi-earth-fixed NTN cell according to this application. As shown in FIG. 4, a coverage area of the satellite at a moment 1 (t1) and a moment 2 (t2) is an area 1, and a coverage area of the satellite at a moment 3 (t3) is an area 2. The LEO satellite and the MEO satellite may also provide earth-moving NTN cells, that is, a coverage area of the NTN cell slides on the ground. FIG. 5 is a diagram of a scenario of an earth-moving NTN cell according to this application. As shown in FIG. 5, coverage areas of the satellite at a moment 1 (t1), a moment 2 (t2), and a moment 3 (t3) slide with time.

**[00107]** When a terminal device is in a serving cell, the terminal device needs to select an optimal serving cell by performing a cell reselection measurement operation, a cell reselection operation, or a handover operation, to optimize wireless connection performance of the terminal device, improve network coverage and a capacity, and reduce power consumption and a delay of the terminal device.

**[00108]** Cell reselection measurement is a process in which the terminal device performs measurement on a cell (for example, a serving cell or a neighboring cell) in a radio resource control idle (Radio Resource Control Idle, RRC Idle) state (which is subsequently referred to as an idle state for short) or a radio resource control inactive (Radio Resource Control inactive, RRC inactive) state (which is subsequently referred to as an inactive state for short). The terminal device may evaluate signal quality of different cells. In a measurement process, the terminal device considers a plurality of factors, for example, reference signal received power (Reference Signal Received Power, RSRP) of cells, reference signal received quality (Reference Signal Received Quality, RSRQ) of cells, a position of the terminal device in the serving cell, and a distance from the terminal device to the serving cell and/or a distance from the terminal device to the neighboring cell. The neighboring cell may also be referred to as a neighboring cell or a neighboring cell.

**[00109]** Cell reselection is a process in which the terminal device selects the serving cell in the idle state or the inactive state. Based on a measurement result, when the neighboring cell meets a specific reselection condition, the terminal device selects the cell to camp on.

**[00110]** Handover is a process in which the terminal device changes the serving cell in an RRC connected state (which is subsequently referred to as a connected state for short). When a neighboring cell of the terminal device meets a specific handover condition, a network device may hand over the terminal device to the neighboring cell, or the terminal device may be independently handed over to the neighboring cell.

**[00111]** In a background of a beamforming technology, the foregoing measurement may be that the terminal device performs measurement on several beams of a cell, for example, performs measurement on a synchronization signal/physical broadcast channel block (SS/Physical Broadcast Channel Block, SSB) or a channel state information-reference signal (Channel State Information-Reference Signal, CSI-RS), to obtain a beam-level measurement result, and obtains a cell-level measurement result of the cell by deriving from the beam-level measurement result. For example, the terminal device obtains quality of each beam of a cell through measurement, and averages the quality of the beams to obtain cell-level quality of the cell.

**[00112]** In addition, the terminal device determines, based on a result of each beam obtained through measurement, one or more beams with the best quality to receive downlink information, a signal, or the like sent by the cell, and the beams may be referred to as optimal beams or serving beams. It should be understood that the optimal beam/serving beam may also be determined in another manner or based on another condition. This is not limited in this application.

**[00113]** For cell reselection measurement in an NTN scenario, the terminal device may control, based on some conditions, whether the terminal device needs to perform measurement on a surrounding neighboring cell, so that the terminal device initiates measurement only when

necessary, thereby avoiding a waste of UE power caused by an unnecessary measurement operation. Currently, the terminal device may control, based on cell signal quality and a distance factor, whether to initiate cell reselection measurement. For example, a network may configure a quality threshold and a distance threshold. Based on the quality threshold, the terminal device evaluates whether a distance from a position of the terminal device to a reference point of an NTN cell (which, for example, may be a subsatellite point of a satellite of the NTN cell) meets the distance threshold, to determine whether to initiate cell reselection measurement. Alternatively, the terminal device may control, based only on the distance factor, whether to initiate cell reselection measurement. Similarly, for cell reselection and handover in the NTN scenario, the terminal device may also control, based on a condition similar to the foregoing cell reselection measurement condition, the terminal device to reselect or hand over to a neighboring cell. The foregoing subsatellite point of the satellite may refer to a point at which a projection of the satellite on the earth's surface is located, that is, an intersection point between a connection line from an instantaneous position of the satellite to the center of the earth and the earth's surface.

**[00114]** For example, for the distance factor, the terminal device may determine, in the following manner, whether to initiate cell reselection measurement and/or cell reselection.

**[00115]** Manner 1: If a difference between a distance from the terminal device to a reference point of the serving cell and a distance from the terminal device to a reference point of the neighboring cell is greater than or equal to the distance threshold, cell reselection measurement and/or cell reselection is initiated. If the difference between the distance from the terminal device to the reference point of the serving cell and the distance from the terminal device to the reference point of the neighboring cell is less than the distance threshold, cell reselection measurement and/or cell reselection is not initiated.

**[00116]** Manner 2: If the distance from the terminal device to the reference point of the serving cell is greater than or equal to the distance threshold, cell reselection measurement and/or cell reselection is initiated. If the distance from the terminal device to the reference point of the serving cell is less than the distance threshold, cell reselection measurement and/or cell reselection is not initiated.

**[00117]** FIG. 6 is a diagram of scenarios of cell reselection measurement and cell reselection/handover according to this application. As shown in FIG. 6, in the foregoing two manners, whether a terminal device meets a preset distance threshold is determined, that is, a relative position between the terminal device and an NTN cell is determined. When the terminal device is located in a central area of the NTN cell in which the terminal device is located (that is, an area obtained by demarcation based on a distance threshold), cell reselection measurement is not initiated. When the terminal device is located in an edge area of the NTN cell in which the

terminal device is located, cell reselection measurement is initiated. Correspondingly, during cell reselection/handover, a target cell for cell reselection/handover may be determined based on a distance from the terminal device to a reference point of an NTN serving cell and/or a distance from the terminal device to a reference point of an NTN neighboring cell.

**[00118]** Based on a coverage requirement and planning, when an NTN satellite covers a specific area, a coverage boundary of the NTN satellite may be an irregular boundary. For example, FIG. 7 is a diagram of a beam of an NTN cell according to an embodiment of this application. As shown in FIG. 7, a coverage area of a satellite is a rectangle, and each numeral in FIG. 7 denotes one beam. A boundary of rectangular coverage of the NTN cell may be irregular. For example, beams on a long side and/or a short side of the rectangle are not aligned. In this case, when the terminal device is in different areas of the boundary, distances from the terminal device to a satellite of a serving cell and to a satellite of a neighboring cell are also different from each other. For example, in FIG. 7, both a terminal device located on a beam #88 and a terminal device located on a beam #96 are located at an edge of the NTN cell, but a difference between distances from the two terminal devices to a reference point is approximately a size of one beam.

**[00119]** However, in a current method for determining whether to initiate or terminate cell reselection measurement and/or cell reselection, a distance threshold used in a distance factor is a unified distance threshold. In FIG. 7, an irregular boundary of a coverage area of the NTN cell causes use of the unified distance threshold to affect accuracy in determining by the terminal device, resulting in a problem of incorrect determining. For example, still refer to FIG. 7. It is assumed that a distance from the terminal device located on the beam #88 to a subsatellite point of a satellite of the NTN cell is d1, and a distance from the terminal device located on the beam #96 to the subsatellite point of the satellite of the NTN cell is d2. In this case, a difference between d1 and d2 is approximately a size of one beam. If whether d1 and d2 are greater than a threshold is determined based on a same distance threshold, the following two cases may occur.

**[00120]** Case 1: d1 does not meet a distance condition, but d2 can meet the distance condition, so that the terminal device located on the beam #88 incorrectly determines that the terminal device is not located at a cell edge, and the terminal device may initiate neighboring cell measurement or perform reselection too late. As a result, the terminal device may lose a serving cell on which the terminal device camps, and mobility performance is affected.

**[00121]** Case 2: Both d1 and d2 can meet the distance condition, but a terminal device located on a beam #94 can also meet the distance condition, so that the terminal device located on the beam #94 determines in advance that the terminal device is located at a cell edge and initiates neighboring cell measurement or performs reselection when the terminal device does not actually reach the cell edge. As a result, unnecessary power overheads are caused for measurement of the

terminal device, or the terminal device performs premature reselection and camps on an inappropriate cell.

**[00122]** Therefore, in the current method, accuracy of operations such as cell reselection measurement and/or cell reselection initiated by the terminal device is affected, causing unnecessary power overheads and affecting mobility performance.

**[00123]** Therefore, this application provides a communication method. A method in which different areas of a serving cell correspond to different distance thresholds is used, so that a terminal device can determine, based on an area in which the terminal device is located, a distance threshold corresponding to the area, and determine, based on the distance threshold, whether to initiate cell reselection measurement, and/or cell reselection, and/or handover. Different areas correspond to different distance thresholds, so that a problem, caused by irregular edges of the serving cell, that determining accuracy of the terminal device is affected by a single distance threshold is alleviated, thereby improving accuracy of operations such as cell reselection measurement, and/or cell reselection, and/or handover initiated by the terminal device, reducing unnecessary power overheads, and improving mobility performance.

**[00124]** The following describes, in detail with reference to the accompanying drawings, the communication method provided in this application. In embodiments shown in this application, an example in which an execution entity is a terminal device or a network device is used. Specific forms and quantities of the devices shown in this application are merely examples, and should not be construed as any limitation on implementations of the method provided in this application.

**[00125]** The terminal device in embodiments of this application may be the terminal device, or may be replaced with a chip, a chip system, or a processor that supports the terminal device in implementing a data transmission method, or may be replaced with a logical module or software that can implement all or a part of functions of the terminal device. The network device in embodiments of this application may be the network device, or may be replaced with a chip, a chip system, or a processor that supports a network device in implementing the data transmission method, or may be replaced with a logical module or software that can implement all or a part of functions of the network device. This is not specifically limited in this application.

**[00126]** FIG. 8 is a schematic flowchart of a communication method according to an embodiment of this application. As shown in FIG. 8, the method may include the following steps.

**[00127]** S801: A terminal device receives first information.

**[00128]** The first information is information indicating the terminal device to perform measurement, and/or cell reselection, and/or handover, and the information corresponds to an area of a serving cell of the terminal device or a beam of the serving cell. The serving cell may be, for example, an NTN cell or a terrestrial serving cell.

**[00129]** When the terminal device is located in an edge area of the serving cell, the terminal device is to perform measurement, and/or cell reselection, and/or handover. The measurement may be the foregoing cell reselection measurement. The cell reselection is a behavior that the terminal device in an idle state reselects a new serving cell to camp on. The handover is a behavior that the terminal device in a connected state is handed over to another serving cell. The edge area of the serving cell herein may be, for example, an area such as a beam #0, a beam #8, or a beam #16 in FIG. 7. A definition of the edge area may be set based on an actual requirement. This is not limited in this application.

**[00130]** The first information may directly indicate the edge area of the serving cell or a beam of the serving cell at an edge of the serving cell, or may indirectly indicate the edge area of the serving cell or the beam of the serving cell at the edge of the serving cell.

**[00131]** In a possible implementation, the first information may indicate a correspondence between a first area of the serving cell and a distance threshold, and the first area is a partial area of the serving cell. Alternatively, the first information may indicate a correspondence between a first beam of the serving cell and a distance threshold, and the first beam is a beam of the serving cell. For example, the first information may indicate a correspondence between at least two areas and the distance thresholds. The two distance thresholds correspond to different areas or beams of the serving cell. Any area may be the first area, or any areas may be first areas. Any beam may be the first beam, or any beams may be first beams. An area is used as an example. For example, an area 1 corresponds to a distance threshold 1; an area 2 corresponds to a distance threshold 2; and an area 3 corresponds to a distance threshold 3. For another example, the area 1 and the area 3 correspond to the distance threshold 1, and the area 2 corresponds to the distance threshold 2. The first area may be an area at an edge of the serving cell, and the first beam may be a beam at the edge of the serving cell. Whether the terminal device is to perform measurement, and/or cell reselection, and/or handover may be determined by using the distance threshold and the correspondence.

**[00132]** In another possible implementation, the first information may indicate that at least one area of the serving cell is a second area, or may indicate that at least one beam of the serving cell is a third beam. Whether the terminal device is located in the second area or on the third beam may be determined by using the first information. If the terminal device is located in the second area, the terminal device is to perform measurement, and/or cell reselection, and/or handover. Alternatively, if the terminal device is located on the third beam, the terminal device is to perform measurement, and/or cell reselection, and/or handover. Optionally, the second area may be, for example, an edge area of the serving cell, or the third beam may be, for example, an edge beam in the beam of the serving cell.

**[00133]** Optionally, the area of the serving cell may be obtained through division based on an actual requirement. For example, a coverage range of the serving cell may be divided into one or more areas based on factors such as a geographical condition and a fixed area size. Alternatively, the area of the serving cell may be obtained through division based on the beam of the serving cell. For example, one beam is one area. Alternatively, the area of the serving cell may be obtained through division based on a beam set of beams of the serving cell. For example, one beam set is one area. For example, the beam set may be an SSB burst set (SSB burst), or one or more beams are grouped into one beam set based on an actual requirement. This is not limited in this application.

**[00134]** Optionally, the terminal device may receive the first information from a network device, or may receive the first information from another device. In the following embodiments, an example in which the terminal device receives the first information from the network device is used for description.

**[00135]** S802: The terminal device determines, based on the first information, whether to perform measurement, and/or cell reselection, and/or handover.

**[00136]** The terminal device determines, based on the information indicated by the first information for the terminal device to perform measurement, and/or cell reselection, and/or handover, whether to perform measurement, and/or cell reselection, and/or handover. For example, the terminal device may determine, based on the information indicated by the first information for the terminal device to perform measurement, and/or cell reselection, and/or handover, whether the terminal device is located in the edge area of the serving cell. If the terminal device is located in the edge area of the serving cell, measurement, and/or cell reselection, and/or handover is performed; or if the terminal device is not located in the edge area of the serving cell, measurement, and/or cell reselection, and/or handover is not performed.

**[00137]** When the first information indicates the distance threshold of the serving cell, the terminal device may determine, based on a distance from the terminal device to a reference point of the serving cell and a distance threshold corresponding to an area in which the terminal device is located, whether the terminal device is to perform measurement, and/or cell reselection, and/or handover. For example, the terminal device may determine, based on the distance from the terminal device to the reference point of the serving cell and the distance threshold corresponding to the area in which the terminal device is located, whether the terminal device is located in the edge area of the serving cell, and determine, depending on whether the terminal device is located in the edge area of the serving cell, whether to perform measurement, and/or cell reselection, and/or handover. Alternatively, the terminal device may determine, based on the distance from the terminal device to the reference point of the serving cell, a distance from the terminal device to a reference point of a neighboring cell, and the distance threshold corresponding to the area in which the terminal

device is located, whether the terminal device is to perform measurement, and/or cell reselection, and/or handover. For example, the terminal device may determine, based on the distance from the terminal device to the reference point of the serving cell, the distance from the terminal device to the reference point of the neighboring cell, and the distance threshold corresponding to the area in which the terminal device is located, whether the terminal device is located in the edge area of the serving cell, and determine, depending on whether the terminal device is located in the edge area of the serving cell, whether to perform measurement, and/or cell reselection, and/or handover. The reference point may be a subsatellite point of a satellite of a cell (which may be referred to as a cell subsatellite point for short), or any other position may be used as the reference point. This is not limited in this application.

**[00138]** For example, if a distance from the terminal device to a subsatellite point of the serving cell is greater than or equal to the distance threshold corresponding to the area in which the terminal device is located, it indicates that the terminal device is located in the edge area of the serving cell, and measurement needs to be performed.

**[00139]** Alternatively, if a difference between the distance from the terminal device to the subsatellite point of the serving cell and a distance from the terminal device to a subsatellite point of a neighboring cell is greater than or equal to the distance threshold corresponding to the area in which the terminal device is located, it indicates that the terminal device is located in the edge area of the serving cell, and measurement needs to be performed.

**[00140]** Alternatively, if the distance from the terminal device to the subsatellite point of the neighboring cell is less than or equal to the distance threshold corresponding to the area in which the terminal device is located, it indicates that the terminal device is located close to the neighboring cell, and may need to perform subsequent cell reselection or handover to the neighboring cell. Therefore, measurement needs to be performed to provide a basis for subsequent cell reselection or handover.

**[00141]** For example, if the distance from the terminal device to the subsatellite point of the neighboring cell is less than or equal to the distance threshold corresponding to the area in which the terminal device is located, it indicates that the terminal device is close to the neighboring cell, and the terminal device may perform cell reselection or handover to the neighboring cell.

**[00142]** Alternatively, if the difference between the distance from the terminal device to the subsatellite point of the serving cell and the distance from the terminal device to the subsatellite point of the neighboring cell is greater than or equal to the distance threshold corresponding to the area in which the terminal device is located, the terminal device may perform cell reselection or handover to the neighboring cell.

**[00143]** According to the method provided in embodiments of this application, a method in

which different areas of a serving cell correspond to different distance thresholds is used, so that a terminal device can determine, based on an area in which the terminal device is located, a distance threshold corresponding to the area, and determine, based on the distance threshold, whether to initiate cell reselection measurement, and/or cell reselection, and/or handover. Different areas correspond to different distance thresholds, so that a problem, caused by irregular edges of the serving cell, that determining accuracy of the terminal device is affected by a single distance threshold is alleviated. For cell reselection measurement, it can be ensured that the terminal device initiates measurement on a neighboring cell only when the terminal device reaches an edge of coverage of the serving cell or approaches coverage of the neighboring cell, so that the terminal device does not perform measurement on a distant neighboring cell, thereby reducing unnecessary measurement overheads of the terminal device. In addition, it can be ensured that the terminal device can initiate measurement on the neighboring cell in a timely manner when approaching the coverage of the neighboring cell, to support subsequent cell reselection determining in a timely manner, thereby ensuring mobility performance. For cell reselection and/or handover, it is ensured that reselection/handover to a neighboring cell is considered only when the terminal device is within coverage of the neighboring cell, to avoid a reselection/handover failure caused by premature reselection/handover performed by the terminal device. In addition, it can be ensured that when the terminal device moves away from coverage of the serving cell and has reached the coverage of the neighboring cell, the terminal device can perform reselection/handover in a timely manner to hand over to an appropriate cell, thereby ensuring mobility performance.

**[00144]** The following describes several cases of areas corresponding to the distance threshold provided in this embodiment of this application by using an example in which the first information includes the distance threshold.

**[00145]** Method 1: There is a correspondence between the distance threshold and the area of the serving cell.

**[00146]** The area of the serving cell may be predefined, or may be sent by the network device to the terminal device. For example, the network device sends related information of the area of the serving cell to the terminal device, and the terminal device determines the area of the serving cell based on the related information. The area of the serving cell may be obtained through division, for example, based on one or more of the following factors: a geographical feature (for example, a geographical position, topography, a landform, and an administrative region), a population characteristic (for example, population density), a network service requirement, and a network resource.

**[00147]** FIG. 9 is a diagram of area division according to an embodiment of this application. As shown in FIG. 9, the serving cell includes at least the area 1, the area 2, and the area 3. In this case,

the first information may include a distance threshold corresponding to each area. For example, the area 1 corresponds to the distance threshold 1; the area 2 corresponds to the distance threshold 2; and the area 3 corresponds to the distance threshold 3. Alternatively, the area 1 and the area 3 correspond to the distance threshold 1, and the area 2 corresponds to the distance threshold 2. Alternatively, the area 1 corresponds to the distance threshold 1, and the area 2 and the area 3 correspond to the distance threshold 2, and so on. The distance threshold may be used by the terminal device to determine whether to perform cell reselection measurement, cell reselection, and handover.

**[00148]** Optionally, the distance threshold may also correspond to an operation to be performed by the terminal device. For example, the distance threshold includes a first distance threshold used to trigger performing measurement, and/or a second distance threshold used to perform cell reselection, and/or a third distance threshold used to perform handover. For example, the distance threshold 1 corresponding to the area 1 includes at least one of the first distance threshold used to trigger performing measurement, the second distance threshold used to perform cell reselection, and the third distance threshold used to perform handover.

**[00149]** In a possible implementation, the areas included in the serving cell may be a result obtained through division of all areas of the serving cell, that is, a sum of all the areas is a coverage area of the serving cell. The areas included in the serving cell may alternatively be a result obtained through division of partial areas of the serving cell, that is, a sum of all areas is less than the coverage area of the serving cell.

**[00150]** Optionally, the distance thresholds included in the first information may be distance thresholds respectively corresponding to all the foregoing areas, or may be distance thresholds respectively corresponding to the partial areas. For example, the distance thresholds included in the first information may be distance thresholds respectively corresponding to edge areas of the serving cell. When the terminal device is located in the edge area, the terminal device may determine, by using the distance threshold, whether to perform cell reselection measurement, and/or cell reselection, and/or handover.

**[00151]** For the method 1, after obtaining distance threshold information provided by the network device, the terminal device may determine, based on the area in which the terminal device is located, a distance threshold corresponding to the area, and determine, based on the distance threshold, whether to perform cell reselection measurement, and/or cell reselection, and/or handover. The terminal device may determine the area in which the terminal device is located based on positioning information of the terminal device (for example, positioning of a global navigation satellite system (Global Navigation Satellite System, GNSS)) and area division.

**[00152]** Method 2: There is a correspondence between the distance threshold and the beam of

the serving cell.

**[00153]** One beam corresponds to a distance threshold of the beam. Distance thresholds corresponding to different beams may be the same, or may be different.

**[00154]** Still refer to FIG. 7. The beam #0 of the serving cell may correspond to the distance threshold 1. The beam #8 may correspond to the distance threshold 2. A beam #24 may correspond to the distance threshold 3. As shown in FIG. 7, an edge of the beam #16 is the same as or similar to an edge of the beam #0. In this case, the distance threshold corresponding to the beam #16 may also be the distance threshold 1, or may be a distance threshold 4 different from the distance threshold 1, or the like. The distance threshold may be used to determine whether the terminal device is to perform cell reselection measurement, cell reselection, and handover.

**[00155]** Optionally, the distance threshold may also correspond to an operation to be performed by the terminal device. For example, the distance threshold includes a first distance threshold used to trigger performing measurement, and/or a second distance threshold used to perform cell reselection, and/or a third distance threshold used to perform handover. For example, the distance threshold 1 corresponding to the beam #0 includes at least one of the first distance threshold used to trigger performing measurement, the second distance threshold used to perform cell reselection, and the third distance threshold used to perform handover.

**[00156]** Optionally, the distance thresholds included in the first information may be distance thresholds respectively corresponding to all the foregoing beams, or may be distance thresholds respectively corresponding to partial beams. For example, the distance threshold included in the first information may be a distance threshold corresponding to a beam of an edge area of the serving cell. When the terminal device is located in the edge area, the terminal device may determine, by using the distance threshold, whether to perform cell reselection measurement, and/or cell reselection, and/or handover.

**[00157]** For the method 2, after obtaining distance threshold information provided by the network device, the terminal device may determine, based on a serving beam (also referred to as an optimal beam) on which the terminal device is located, a distance threshold corresponding to the beam, and determine, based on the distance threshold, whether to perform cell reselection measurement, and/or cell reselection, and/or handover. The serving beam may be determined by the terminal device through beam quality measurement or in another manner. For example, the terminal device may use, as the serving beam, a beam whose beam quality is greater than or equal to a preset quality threshold and that is obtained through measurement in a cell.

**[00158]** Method 3: There is a correspondence between the distance threshold and the beam set of the serving cell.

**[00159]** One beam set corresponds to a distance threshold of the beam set. Distance thresholds

corresponding to different beams may be the same, or may be different. The beam set may be obtained through division based on an actual requirement. When a reference signal of a beam is an SSB, the beam set may also be the SSB burst.

**[00160]** For example, still refer to FIG. 7. The beam #0 to a beam #7 of the serving cell may form one beam set, and the beam #8 to a beam #15 may form another beam set, and so on. Alternatively, the beam #0, the beam #8, the beam #16, the beam #24, and the like of the serving cell may form one beam set. Alternatively, the beam #0, a beam #9, and a beam #26 of the serving cell may form one beam set (that is, a beam set defined based on an actual requirement).

**[00161]** An example in which one column forms one beam set in FIG. 7 is used. The beam set corresponding to the beam #0 to the beam #7 of the serving cell may correspond to the distance threshold 1, and the beam set corresponding to the beam #8 to the beam #15 may correspond to the distance threshold 2. Optionally, distance thresholds corresponding to at least two beam sets with similar edges may be the same or different. The distance threshold may be used to determine whether the terminal device is to perform cell reselection measurement, cell reselection, and handover.

**[00162]** Optionally, the distance threshold may also correspond to an operation to be performed by the terminal device. For example, the distance threshold includes a first distance threshold used to trigger performing measurement, and/or a second distance threshold used to perform cell reselection, and/or a third distance threshold used to perform handover. For example, the distance threshold 1 corresponding to a beam set 1 includes at least one of the first distance threshold used to trigger performing measurement, the second distance threshold used to perform cell reselection, and the third distance threshold used to perform handover.

**[00163]** Optionally, the distance thresholds included in the first information may be distance thresholds respectively corresponding to all the foregoing beam sets, or may be distance thresholds respectively corresponding to partial beam sets.

**[00164]** For the method 3, after obtaining distance threshold information provided by the network device, the terminal device may determine, based on a beam set to which a serving beam (also referred to as an optimal beam) on which the terminal device is located belongs, a distance threshold corresponding to the beam set, and determine, based on the distance threshold, whether to perform cell reselection measurement, and/or cell reselection, and/or handover.

**[00165]** In the foregoing method 1 to method 3, when the first information is sent by the network device to the terminal device by using broadcast signaling, the network device may send the correspondences between all areas/beams/beam sets of the serving cell and the distance thresholds to the terminal device, or may send the correspondences between the partial areas/beams/beam sets and the distance thresholds to the terminal device.

**[00166]** When the first information is sent by the network device to the terminal device via a beam, the first information indicates the distance threshold corresponding to a second beam of the serving cell, and the network device sends the first information to the terminal device via the first beam. The second beam may be any beam of the serving cell. For example, when the first information includes the correspondence between the first area and the distance threshold, the correspondence between the first area and the distance threshold may be sent in all beams in the first area (that is, all beams in the first area are second beams). For another example, when the first information includes the correspondence between the beam and the distance threshold, the correspondence between the second beam and the distance threshold may be sent in the second beam. For another example, when the first information includes the correspondence between the beam set and the distance threshold, the correspondence between the beam set and the distance threshold may be sent in all beams in the beam set (that is, all beams in the beam set are second beams).

**[00167]** For example, the following describes an example of another procedure in embodiments of this application. FIG. 10 is a schematic flowchart of another communication method according to an embodiment of this application. As shown in FIG. 10, the method may include the following steps.

**[00168]** S1001: A network device sends first information to a terminal device.

**[00169]** Correspondingly, the terminal device receives the first information sent by the network device.

**[00170]** The first information includes a distance threshold. A manner in which the network device sends the first information to the terminal device may be that the network device sends, to the terminal device by using broadcast signaling, correspondences between all areas/beams/beam sets in a serving cell and distance thresholds, or may be that the network device sends, to the terminal device via a beam, a distance threshold corresponding to the beam. Details are not described herein again.

**[00171]** S1002: The terminal device determines, based on the first information, the distance threshold for performing cell reselection measurement, and/or cell reselection, and/or handover.

**[00172]** The terminal device determines, based on the distance threshold indicated by the first information and an area in which the terminal device is located or a serving beam/an optimal beam of the terminal device or a beam set to which the serving beam belongs, a distance threshold corresponding to the area or the beam or the beam set, and determines, based on the distance threshold, the distance threshold for whether to perform cell reselection measurement, and/or cell reselection, and/or handover. For content herein, refer to the content in the foregoing method 1 to method 3. Details are not described herein again.

**[00173]** S1003: When the terminal device meets a distance threshold for performing cell reselection measurement, the terminal device is to perform cell reselection measurement.

**[00174]** For a method for determining that the terminal device meets the distance threshold for performing cell reselection measurement, refer to the method for determining, by the terminal device based on the first information, to perform measurement, and/or cell reselection, and/or handover in the foregoing step S802. For example, if a distance from the terminal device to a subsatellite point of the serving cell is greater than or equal to the distance threshold corresponding to the area in which the terminal device is located, it indicates that the terminal device is located in an edge area of the serving cell, and cell reselection measurement needs to be performed. Alternatively, if a difference between the distance from the terminal device to the subsatellite point of the serving cell and a distance from the terminal device to a subsatellite point of a neighboring cell is greater than or equal to the distance threshold corresponding to the area in which the terminal device is located, it indicates that the terminal device is located in the edge area of the serving cell, and cell reselection measurement needs to be performed. Details are not described herein.

**[00175]** S1004: The terminal device determines, by using a distance threshold for determining a target cell for cell reselection/handover, the target cell for cell reselection/handover.

**[00176]** The method may be implemented by using a method similar to that described in the foregoing step S1003. For example, if the distance from the terminal device to the subsatellite point of the neighboring cell is less than or equal to the distance threshold corresponding to the area in which the terminal device is located, it indicates that the terminal device is close to the neighboring cell, and the terminal device may perform cell reselection or handover to the neighboring cell. Alternatively, if the difference between the distance from the terminal device to the subsatellite point of the serving cell and the distance from the terminal device to the subsatellite point of the neighboring cell is greater than or equal to the distance threshold corresponding to the area in which the terminal device is located, the terminal device may perform cell reselection or handover to the neighboring cell.

**[00177]** The distance threshold used for cell reselection/handover may be the same as or different from the distance threshold used for determining whether to perform cell reselection measurement in the foregoing step S1003.

**[00178]** In a possible implementation, the method may further include the following step:

**[00179]** S1005: The network device updates distance threshold information when a coverage status of the serving cell changes.

**[00180]** The distance threshold may be updated based on the coverage status of the serving cell. For example, if a coverage shape of the serving cell changes, or an edge beam of the serving cell changes, the network device may update the distance threshold.

**[00181]** A manner of updating the distance threshold information by the network device may be updating the distance threshold information by using system information. For example, in a system information modification period (SI modification period), the terminal device is notified, by using a system information change indication (SI change notification), that the system information or specific distance threshold information is to change (for example, a correspondence between an area and the distance threshold changes, a mapping relationship between a beam and the distance threshold changes, or a mapping relationship between a beam set and the distance threshold changes), and then updated system information/distance threshold information is sent in a next system information modification period.

**[00182]** It should be understood that a process for the distance threshold information and a sequence of steps S1001 to S1004 are not limited, and the network device may update the distance threshold information at any time when there is a requirement for updating the distance threshold information.

**[00183]** According to the method provided in this embodiment of this application, different distance thresholds are provided for different areas of a serving cell, and the terminal device adaptively uses different distance thresholds based on a cell boundary status to control whether the terminal device initiates cell reselection measurement, and/or cell reselection, and/or handover, to accurately determine, based on an actual coverage status of the serving cell, whether the terminal device is located in an edge area of the serving cell, thereby appropriately controlling the terminal device to initiate or terminate performing cell reselection measurement, and/or cell reselection, and/or handover. For cell reselection measurement, it can be ensured that the terminal device initiates measurement on a neighboring cell only when the terminal device reaches an edge of coverage of the serving cell or approaches coverage of the neighboring cell, so that the terminal device does not perform measurement on a distant neighboring cell, thereby reducing unnecessary measurement overheads of the terminal device. In addition, it can be ensured that the terminal device can initiate measurement on the neighboring cell in a timely manner when approaching the coverage of the neighboring cell, to support subsequent cell reselection determining in a timely manner, thereby ensuring mobility performance. For cell reselection and/or handover, it is ensured that reselection/handover to a neighboring cell is considered only when the terminal device is within coverage of the neighboring cell, to avoid a reselection/handover failure caused by premature reselection/handover performed by the terminal device. In addition, it can be ensured that when the terminal device moves away from coverage of the serving cell and has reached the coverage of the neighboring cell, the terminal device can perform reselection/handover in a timely manner to hand over to an appropriate cell to camp on, thereby ensuring mobility performance.

**[00184]** The following describes, by using an example in which the first information includes

information about a second area or a third beam for performing cell reselection measurement, and/or cell reselection, and/or handover, the method provided in this embodiment of this application.

**[00185]** Method 4: The information about the second area includes an identifier of the second area.

**[00186]** The second area is an area in which the terminal device needs to perform cell reselection measurement, and/or cell reselection, and/or handover. To be specific, if the terminal device is located in the second area, it is determined that the terminal device needs to perform cell reselection measurement, and/or cell reselection, and/or handover. For example, the area may be the edge area of the serving cell. Therefore, the information about the second area may also be referred to as edge area information.

**[00187]** In this implementation, the information about the second area may include the identifier of the second area. For example, FIG. 9 is still used as an example. The first information may include identifiers of areas at an edge of the serving cell, such as the area 1, the area 2, and the area 3.

**[00188]** In the method 4, the terminal device may determine, based on a position of the terminal device and the identifier of the second area, whether the position of the terminal device is in the second area. If the position of the terminal device is in the second area, it indicates that the terminal device is located in the second area in which cell reselection measurement, and/or cell reselection, and/or handover need/needs to be performed.

**[00189]** Optionally, an area for performing cell reselection measurement, an area for performing cell reselection, and an area for performing handover may be the same or may be different. Therefore, third beams respectively corresponding to the area for performing cell reselection measurement, the area for performing cell reselection, and performing handover may be the same or may be different.

**[00190]** Method 5: The information about the third beam includes an identifier of the third beam.

**[00191]** The third beam is a beam on which the terminal device needs to perform cell reselection measurement, and/or cell reselection, and/or handover. To be specific, if the terminal device is located on the beam (that is, the beam is the serving beam/optimal beam of the terminal device, and a method for determining the serving beam/optimal beam may be determined based on beam quality or another condition; and details are not described subsequently), it is determined that the terminal device needs to perform cell reselection measurement, and/or cell reselection, and/or handover. For example, the third beam may be an edge beam of the serving cell.

**[00192]** In this implementation, the information about the third beam includes the identifier of the third beam. The third beam may be, for example, one beam, or may be a plurality of beams.

This depends on a quantity of beams of the edge beam of the serving cell. In this case, the information about the third beam may also be referred to as edge beam information (that is, information about a beam that is of the serving cell and that is at the edge of the serving cell).

**[00193]** For example, FIG. 7 is still used as an example. The first information may include identifiers of beams at the edge of the serving cell, such as the beam #0, the beam #8, the beam #16, and the beam #24.

**[00194]** In the method 5, the terminal device may determine, based on a beam on which the terminal device is located and the identifier of the third beam, whether the beam on which the terminal device is located is the third beam. If the beam on which the terminal device is located is the third beam, it indicates that the terminal device is located in the area in which cell reselection measurement, and/or cell reselection, and/or handover need/needs to be performed.

**[00195]** Optionally, an area for performing cell reselection measurement, an area for performing cell reselection, and an area for performing handover may be the same or may be different. Therefore, third beams respectively corresponding to the area for performing cell reselection measurement, the area for performing cell reselection, and performing handover may be the same or may be different.

**[00196]** Method 6: The first information includes a bitmap (bitmap).

**[00197]** One bit in the bitmap corresponds to one beam of the serving cell. If a value of a bit in the bitmap is a first value, a beam corresponding to the bit is the third beam; or if a value of a bit in the beam bitmap is a second value, a beam corresponding to the bit is not the third beam.

**[00198]** For example, FIG. 11 is a diagram of a bitmap according to an embodiment of this application. As shown in FIG. 11, a quantity of bits in the bitmap may be the same as a quantity of beams of the serving cell, and one bit in the bitmap corresponds to one beam of the serving cell. If a value of a bit in the bitmap is the first value (the first value is, for example, 1, that is, a value of a bit corresponding to an edge beam such as the beam #0, the beam #8, the beam #16, and the beam #24 in FIG. 11 is 1), it indicates that a beam corresponding to the bit is the third beam. If a value of a bit in the bitmap is the second value (which is, for example, 0), it indicates that a beam corresponding to the bit is not the third beam.

**[00199]** In the method 6, the terminal device may determine, based on a beam on which the terminal device is located and the value of the bit in the bitmap, whether the beam on which the terminal device is located is the third beam. If the beam on which the terminal device is located is the third beam, it indicates that the terminal device needs to perform cell reselection measurement, and/or cell reselection, and/or handover.

**[00200]** Optionally, an area for performing cell reselection measurement, an area for performing cell reselection, and an area for performing handover may be the same or may be different.

Therefore, a bitmap used to determine to perform cell reselection measurement, a bitmap used to determine to perform cell reselection, and a bitmap used to determine to perform handover may be the same or may be different. For example, different operations (such as cell reselection measurement, cell reselection, and handover) may correspond to different bitmaps.

**[00201]** In the foregoing method 4 to method 6, the first information may be information that is sent by the network device to the terminal device by using broadcast signaling (for example, the system information) and that includes information about the second area or the third beam included in the serving cell.

**[00202]** Optionally, the network device may further send, to the terminal device via a beam, information about whether the beam is the third beam. For example, the first information indicates whether a fourth beam of the serving cell is the third beam, and the fourth beam is the beam on which the terminal device is located, that is, a beam on which the terminal device receives the first information from the network device. The first information transmitted via the fourth beam may indicate whether the fourth beam is the third beam. For example, the first information may indicate, by using different values of indication information, whether the fourth beam is the third beam, or indicate, based on presence or absence of the indication information, whether the fourth beam is the third beam. For example, the first information sent via the beam #0 includes the indication information. If a value of the indication information is A, it indicates that the beam #0 is the third beam; or if a value of the indication information is B, it indicates that the beam #0 is not the third beam. Alternatively, if the first information sent via the beam #0 includes the indication information, it indicates that the beam #0 is the third beam; or if the first information sent via the beam #0 does not include the indication information, it indicates that the beam #0 is not the third beam.

**[00203]** For example, the following describes an example of a complete procedure in embodiments of this application. FIG. 12 is a schematic flowchart of still another communication method according to an embodiment of this application. As shown in FIG. 12, the method may include the following steps.

**[00204]** S1201: A network device sends first information to a terminal device.

**[00205]** Correspondingly, the terminal device receives the first information sent by the network device.

**[00206]** The first information includes information about a second area or a third beam for performing cell reselection measurement, and/or cell reselection, and/or handover. A manner in which the network device sends the first information to the terminal device may be that the network device sends, to the terminal device by using broadcast signaling (for example, system information), information including information about the second area or the third beam included

in the serving cell. Alternatively, the network device may send, to the terminal device via a beam, information about whether the beam is the third beam. Details are not described herein again.

**[00207]** S1202: The terminal device determines, based on the first information, the second area or the third beam for performing cell reselection measurement, and/or cell reselection, and/or handover.

**[00208]** The terminal device determines, based on an identifier of the second area in the first information, the second area of the serving cell (that is, an area at an edge of the serving cell). Alternatively, the terminal device determines, based on an identifier of the third beam or a bitmap in the first information, the third beam of the serving cell (that is, a beam at the edge of the serving cell).

**[00209]** S1203: When the terminal device is located in the second area or on the third beam for performing cell reselection measurement, the terminal device is to perform cell reselection measurement.

**[00210]** The terminal device determines, based on the second area indicated by the first information and a position of the terminal device, whether the position of the terminal device belongs to the second area. If the position of the terminal device belongs to the second area, the terminal device is to perform cell reselection measurement.

**[00211]** Alternatively, the terminal device determines, based on the third beam indicated by the first information and a beam on which the terminal device is located, whether the terminal device is located on the third beam. If the terminal device is located on the third beam (that is, an area in which cell reselection measurement is performed), the terminal device is to perform cell reselection measurement.

**[00212]** S1204: When the terminal device is located in the second area or on the third beam that needs to be used to determine a target cell for cell reselection/handover, the terminal device determines the target cell for cell reselection/handover.

**[00213]** The terminal device determines, based on the second area that is indicated by the first information and that is used to determine the target cell for cell reselection/handover and the position of the terminal device, whether the position of the terminal device belongs to the second area. If the position of the terminal device belongs to the second area, the terminal device determines the target cell for cell reselection/handover.

**[00214]** Alternatively, the terminal device determines, based on the third beam that is indicated by the first information and that is used to determine the target cell for cell reselection/handover, and the beam on which the terminal device is located, whether the terminal device is located on the third beam. If the terminal device is located on the third beam (that is, an area in which cell reselection/handover is performed), the terminal device determines the target cell for cell

reselection/handover.

**[00215]** Optionally, the second area or the third beam for determining the target cell for cell reselection/handover may be the same as or different from the second area or the third beam for performing cell reselection measurement.

**[00216]** In a possible implementation, the method may further include the following step:

**[00217]** S1205: The network device updates beam information when a coverage status of the serving cell changes.

**[00218]** The beam may be updated based on the coverage status of the serving cell. For example, if an edge beam of the serving cell changes, the network device may update the beam information.

**[00219]** A manner of updating the beam information by the network device may be updating the beam information by using the system information. For example, in a system information modification period (SI modification period), the terminal device is notified, by using a system information change indication (SI change notification), that the system information or specific beam information is to change, and then updated system information/beam information is sent in a next system information modification period.

**[00220]** It should be understood that a process for the beam information and a sequence of steps S1201 to S1204 are not limited, and the network device may update the beam information at any time when there is a requirement for updating the beam information.

**[00221]** According to the method provided in this embodiment of this application, an area of a serving cell for performing cell reselection measurement, and/or cell reselection, and/or handover is sent to a terminal device, and the terminal device determines whether the terminal device is located in the area, to accurately determine whether the terminal device is located in an edge area of the serving cell, thereby appropriately controlling the terminal device to initiate or terminate performing cell reselection measurement, and/or cell reselection, and/or handover. For cell reselection measurement, it can be ensured that the terminal device initiates measurement on a neighboring cell only when the terminal device reaches an edge of coverage of the serving cell or approaches coverage of the neighboring cell, so that the terminal device does not perform measurement on a distant neighboring cell, thereby reducing unnecessary measurement overheads of the terminal device. In addition, it can be ensured that the terminal device can initiate measurement on the neighboring cell in a timely manner when approaching the coverage of the neighboring cell, to support subsequent cell reselection determining in a timely manner, thereby ensuring mobility performance. For cell reselection and/or handover, it is ensured that reselection/handover to a neighboring cell is considered only when the terminal device is within coverage of the neighboring cell, to avoid a reselection/handover failure caused by premature reselection/handover performed by the terminal device. In addition, it can be ensured that when

the terminal device moves away from coverage of the serving cell and has reached the coverage of the neighboring cell, the terminal device can perform reselection/handover in a timely manner to hand over to an appropriate cell to camp on, thereby ensuring mobility performance.

**[00222]** In addition, in an NTN system, the terminal device further needs to perform measurement on an optimal beam and an adjacent beam around the terminal device, to ensure that the terminal device monitors quality of an NTN cell and support mobility of the terminal device in the serving cell. Currently, the terminal device mainly performs measurement on as many beams in the NTN cell as possible, and determines, based on beam quality in a measurement result (that is, higher beam quality indicates a shorter distance from a beam to the terminal device), the adjacent beam around the terminal device.

**[00223]** However, when beam measurement is performed in this manner to support mobility of the terminal device in the serving cell, the terminal device performs excessive redundant measurement during measurement. For example, the terminal device performs measurement on as many beams in the NTN cell as possible, and a part of the beams is not an adjacent beam of the terminal device. When a coverage area of the NTN cell may need to reach an order of hundreds of thousands of square kilometers, a quantity of beams in the NTN cell is far greater than a quantity of beams in a terrestrial cell. Therefore, the terminal device causes high measurement overheads due to excessive redundant measurement behaviors, affecting power consumption of the terminal device.

**[00224]** Therefore, this application provides a communication method. Beam layout information of a serving cell is sent to a terminal device, so that the terminal device determines, based on an area in which the terminal device is located and the beam layout information, an adjacent beam of the terminal device, and performs measurement on the adjacent beam, thereby reducing redundant measurement behaviors of the terminal device, and reducing measurement overheads and power consumption.

**[00225]** FIG. 13 is a schematic flowchart of yet another communication method according to an embodiment of this application. As shown in FIG. 13, the method may include the following steps.

**[00226]** S1301: A terminal device receives second information.

**[00227]** The second information indicates beam layout information of a serving cell of the terminal device. The serving cell may be an NTN cell, or may be a terrestrial serving cell or the like. The second information may be sent by a network device to the terminal device, or may be sent by another device to the terminal device.

**[00228]** In a possible implementation, the beam layout information is a beam layout diagram in the serving cell, for example, the beam layout diagram shown in FIG. 7.

**[00229]** In another possible implementation, the beam layout information includes at least one of a sorting rule for beams of the serving cell and width information of a beam set of the serving cell. The beam set may be an SSB burst, or may be a beam set defined based on an actual requirement.

**[00230]** In this implementation, the sorting rule for beams of the serving cell may be a rule for sorting beam identifiers in ascending order or a rule for sorting beam identifiers in descending order. Still refer to FIG. 7. An example in which the sorting rule is the rule for sorting beam identifiers in ascending order is used, and the rule for sorting beam identifiers in ascending order is sorting in ascending order from bottom to top and from left to right. Alternatively, for example, an upward direction is used as north, and the rule for sorting beam identifiers in ascending order is sorting in ascending order from south to north and from west to east.

**[00231]** The width information of the beam set of the serving cell may be a quantity of columns occupied by the beams in the beam set or a quantity of rows occupied by the beams in the beam set. Still refer to FIG. 7. An example in which the width information is the quantity of columns occupied by the beams in the beam set is used, and the width information of the beam set is 1. FIG. 14 is a diagram of a structure of a beam layout according to an embodiment of this application. As shown in FIG. 14, a beam #0 to a beam #7 form one beam set, a beam #8 to a beam #15 form another beam set, and so on. An example in which the width information is the quantity of columns occupied by the beams in the beam set is used, and the width information of the beam set is 2.

**[00232]** Optionally, the second information may include only the sorting rule for the beams of the serving cell, or may include only the width information of the beam set of the serving cell. In this case, another piece of information that is not included may be predefined. Alternatively, the second information may include the sorting rule for the beams of the serving cell and the width information of the beam set of the serving cell.

**[00233]** S1302: The terminal device performs measurement based on the beam layout information.

**[00234]** The terminal device may determine a sixth beam based on a fifth beam on which the terminal device is located and the beam layout information. The fifth beam is a serving beam of the terminal device (that is, a beam on which the terminal device is located), and the sixth beam is an adjacent beam of the terminal device. FIG. 7 is used as an example. If the beam on which the terminal device is located is a beam #27, a beam #35 adjacent to the beam #27 may be used as the sixth beam.

**[00235]** Optionally, the terminal device may use the fifth beam and/or the sixth beam as to-be-measured beams/a to-be-measured beam, to perform measurement on the to-be-measured beams/a to-be-measured beam. For example, the terminal device may perform measurement only on the

sixth beam to prepare for subsequent handover to the sixth beam. Alternatively, when performing measurement on the sixth beam, the terminal device continuously performs measurement on the fifth beam, to ensure that a currently used beam is a better selection. If a measurement result of the sixth beam is better than a measurement result of the fifth beam, the terminal device performs handover to the sixth beam to work. Similarly, the terminal device may alternatively use a beam in a beam set to which the fifth beam belongs as a part of the to-be-measured beams. Details are not described herein again.

**[00236]** Optionally, the sixth beam in this embodiment of this application may be a beam adjacent to the fifth beam. For example, when the fifth beam is a beam #27 in FIG. 7, the beam #35 is the sixth beam. Alternatively, the beam #35, a beam #43, and a beam #44 are all sixth beams adjacent to the beam #27. A range of the adjacent beams may be set based on an actual requirement. This is not limited in this application. For another example, refer to FIG. 14. If the fifth beam is the beam #27, the sixth beam may alternatively be a beam #30 in a same beam set.

**[00237]** Optionally, the sixth beam in this embodiment of this application may alternatively be a beam in a beam set adjacent to the fifth beam. For example, when the fifth beam is the beam #27 in FIG. 7, the sixth beam may be a beam in a beam set including a beam #32 to a beam #39, or may further include a beam in a beam set including a beam #40 to a beam #47. A range of the adjacent beam set may be set based on an actual requirement (which may be a next adjacent beam set, next two adjacent beam sets, or the like). This is not limited in this application.

**[00238]** According to the method provided in this embodiment of this application, the beam layout information in the serving cell is sent to the terminal device, so that the terminal device can determine, based on the fifth beam on which the terminal device is located and the beam layout information, a beam that needs to be subsequently measured, thereby narrowing a beam range in which the terminal device performs measurement, reducing redundant measurement, and reducing unnecessary power consumption for measurement of the terminal device.

**[00239]** It should be understood that, in embodiments of this application, the terminal device and/or the network device may perform a part or all of the steps in embodiments. These steps or operations are merely examples. Other operations or variations of various operations may be further performed in embodiments of this application. In addition, the steps may be performed in a sequence different from a sequence shown in embodiments, and not all of operations in embodiments of this application may be necessarily performed. In addition, sequence numbers of the steps do not mean an execution sequence. An execution sequence of the processes should be determined based on functions and internal logic of the processes, and should not constitute any limitation on the implementation processes of embodiments of this application.

**[00240]** FIG. 15 is a diagram of a structure of another communication apparatus according to

an embodiment of this application. It may be understood that the communication apparatus may correspondingly implement the operations or steps corresponding to the terminal device in the foregoing method embodiments. The communication apparatus may be a terminal device, or may be a component that can be configured in a terminal device, for example, a chip or a chip module. As shown in FIG. 15, the communication apparatus may include a receiving module 1501 and a processing module 1502.

**[00241]** The receiving module 1501 is configured to receive first information, where the first information is information indicating the terminal device to perform measurement, and/or cell reselection, and/or handover, and the information corresponds to an area of a serving cell of the terminal device or a beam of the serving cell.

**[00242]** The processing module 1502 is configured to determine, based on the first information, whether to perform measurement, and/or cell reselection, and/or handover.

**[00243]** Optionally, the first information includes a distance threshold. The processing module 1502 is specifically configured to determine, based on the distance threshold, whether to perform measurement, and/or cell reselection, and/or handover.

**[00244]** Optionally, the processing module 1502 is specifically configured to: If a distance from the terminal device to a reference point of the serving cell is greater than or equal to the distance threshold, determine that the terminal device is to perform measurement, and/or cell reselection, and/or handover. Alternatively, if a difference between the distance from the terminal device to the reference point of the serving cell and a distance from the terminal device to a reference point of a neighboring cell is greater than or equal to the distance threshold, it is determined that the terminal device is to perform measurement, and/or cell reselection, and/or handover.

**[00245]** Optionally, the first information indicates a correspondence between a first area or a first beam and the distance threshold, the first area is a partial area of the serving cell, and the first beam is a beam of the serving cell.

**[00246]** Optionally, the information corresponding to the beam of the serving cell is information corresponding to a beam set of the serving cell, and the beam set includes one or more beams.

**[00247]** Optionally, the beam set is a synchronization signal/physical broadcast channel block burst set SSB burst.

**[00248]** Optionally, the first information indicates the distance threshold corresponding to a second beam of the serving cell. The receiving module 1501 is specifically configured to receive the first information via the second beam.

**[00249]** Optionally, the distance threshold includes a first distance threshold used to trigger performing measurement, and/or a second distance threshold used to perform cell reselection, and/or a third distance threshold used to perform handover.

**[00250]** Optionally, the first information includes information about a second area or a third beam of the serving cell for performing measurement, and/or cell reselection, and/or handover. The processing module 1502 is specifically configured to: If the terminal device is located in the second area or on the third beam, determine that the terminal device is to perform measurement, and/or cell reselection, and/or handover.

**[00251]** Optionally, if the first information includes the information about the second area, the information about the second area includes an identifier of the second area; or if the first information includes the information about the third beam, the information about the third beam includes an identifier of the third beam.

**[00252]** Optionally, the first information includes a bitmap, and one bit in the bitmap corresponds to one beam of the serving cell. If a value of a bit in the beam bitmap is a first value, a beam corresponding to the bit is the third beam; or if a value of a bit in the beam bitmap is a second value, a beam corresponding to the bit is not the third beam.

**[00253]** Optionally, the first information indicates whether a fourth beam of the serving cell is the third beam. The receiving module 1501 is specifically configured to receive the first information via the fourth beam.

**[00254]** Optionally, the serving cell is a non-terrestrial network NTN cell.

**[00255]** The communication apparatus provided in this embodiment may perform actions of the terminal device in the foregoing method embodiments. An implementation principle and a technical effect thereof are similar. Details are not described herein again.

**[00256]** FIG. 16 is a diagram of a structure of a communication apparatus according to an embodiment of this application. It may be understood that the communication apparatus may correspondingly implement the operations or steps corresponding to the network device in the foregoing method embodiments. The communication apparatus may be a network device, or may be a component that can be configured in a network device, for example, a chip or a chip module. As shown in FIG. 16, the communication apparatus may include a sending module 1601.

**[00257]** The sending module 1601 is configured to send first information, where the first information is information indicating a terminal device to perform measurement, and/or cell reselection, and/or handover, and the information corresponds to an area of a serving cell of the terminal device or a beam of the serving cell.

**[00258]** Optionally, the first information includes a distance threshold, and the distance threshold is used to determine whether to perform measurement, and/or cell reselection, and/or handover.

**[00259]** Optionally, if a distance from the terminal device to a reference point of the serving cell is greater than or equal to the distance threshold, it is determined that the terminal device is to

perform measurement, and/or cell reselection, and/or handover. Alternatively, if a difference between the distance from the terminal device to the reference point of the serving cell and a distance from the terminal device to a reference point of a neighboring cell is greater than or equal to the distance threshold, it is determined that the terminal device is to perform measurement, and/or cell reselection, and/or handover.

**[00260]** Optionally, the first information indicates a correspondence between a first area or a first beam and the distance threshold, the first area is a partial area of the serving cell, and the first beam is a beam of the serving cell.

**[00261]** Optionally, the information corresponding to the beam of the serving cell is information corresponding to a beam set of the serving cell, and the beam set includes one or more beams.

**[00262]** Optionally, the beam set is a synchronization signal/physical broadcast channel block burst set SSB burst.

**[00263]** Optionally, the first information indicates the distance threshold corresponding to a second beam of the serving cell. The sending module 1601 is specifically configured to send the first information via the second beam.

**[00264]** Optionally, the distance threshold includes a first distance threshold used to trigger performing measurement, and/or a second distance threshold used to perform cell reselection, and/or a third distance threshold used to perform handover.

**[00265]** Optionally, the first information includes information about a second area or a third beam of the serving cell for performing measurement, and/or cell reselection, and/or handover.

**[00266]** Optionally, if the first information includes the information about the second area, the information about the second area includes an identifier of the second area; or if the first information includes the information about the third beam, the information about the third beam includes an identifier of the third beam.

**[00267]** Optionally, the first information includes a bitmap, and one bit in the bitmap corresponds to one beam of the serving cell. If a value of a bit in the beam bitmap is a first value, a beam corresponding to the bit is the third beam; or if a value of a bit in the beam bitmap is a second value, a beam corresponding to the bit is not the third beam.

**[00268]** Optionally, the first information indicates whether a fourth beam of the serving cell is the third beam. The sending module 1601 is specifically configured to send the first information via the fourth beam.

**[00269]** Optionally, the serving cell is a non-terrestrial network NTN cell.

**[00270]** The communication apparatus provided in this embodiment may perform actions of the network device in the foregoing method embodiments. An implementation principle and a technical effect thereof are similar. Details are not described herein again.

**[00271]** FIG. 17 is a diagram of a structure of another communication apparatus according to an embodiment of this application. It may be understood that the communication apparatus may correspondingly implement the operations or steps corresponding to the terminal device in the foregoing method embodiments. The communication apparatus may be a terminal device, or may be a component that can be configured in a terminal device, for example, a chip or a chip module. As shown in FIG. 17, the communication apparatus may include a receiving module 1701. In a possible implementation, the apparatus further includes a processing module 1702.

**[00272]** The receiving module 1701 is configured to receive second information, where the second information indicates beam layout information of a serving cell of the terminal device.

**[00273]** Optionally, the processing module 1702 is configured to perform measurement based on the beam layout information.

**[00274]** Optionally, the beam layout information includes at least one of the following: a sorting rule for beams of the serving cell and width information of a beam set of the serving cell.

**[00275]** Optionally, the sorting rule for the beams of the serving cell includes a rule for sorting beam identifiers in ascending order or a rule for sorting beam identifiers in descending order.

**[00276]** Optionally, the width information of the beam set includes a quantity of columns occupied by the beams in the beam set or a quantity of rows occupied by the beams in the beam set.

**[00277]** Optionally, the processing module 1702 is specifically configured to: determine a sixth beam based on a fifth beam on which the terminal device is located and the beam layout information, and perform measurement on the fifth beam and/or the sixth beam.

**[00278]** Optionally, the sixth beam is a beam adjacent to the fifth beam, or the sixth beam is a beam in a beam set adjacent to the fifth beam.

**[00279]** Optionally, the beam set is a synchronization signal/physical broadcast channel block burst set SSB burst.

**[00280]** Optionally, the serving cell is a non-terrestrial network NTN cell.

**[00281]** The communication apparatus provided in this embodiment may perform actions of the terminal device in the foregoing method embodiments. An implementation principle and a technical effect thereof are similar. Details are not described herein again.

**[00282]** FIG. 18 is a diagram of a structure of a communication apparatus according to an embodiment of this application. It may be understood that the communication apparatus may correspondingly implement the operations or steps corresponding to the network device in the foregoing method embodiments. The communication apparatus may be a network device, or may be a component that can be configured in a network device, for example, a chip or a chip module. As shown in FIG. 18, the communication apparatus may include a sending module 1801.

**[00283]** The sending module 1801 is configured to send second information, where the second information indicates beam layout information of a serving cell of a terminal device.

**[00284]** Optionally, the beam layout information includes at least one of the following: a sorting rule for beams of the serving cell and width information of a beam set of the serving cell.

**[00285]** Optionally, the sorting rule for the beams of the serving cell includes a rule for sorting beam identifiers in ascending order or a rule for sorting beam identifiers in descending order.

**[00286]** Optionally, the width information of the beam set includes a quantity of columns occupied by the beams in the beam set or a quantity of rows occupied by the beams in the beam set.

**[00287]** Optionally, the beam set is a synchronization signal/physical broadcast channel block burst set SSB burst.

**[00288]** Optionally, the serving cell is a non-terrestrial network NTN cell.

**[00289]** The communication apparatus provided in this embodiment may perform actions of the network device in the foregoing method embodiments. An implementation principle and a technical effect thereof are similar. Details are not described herein again.

**[00290]** Optionally, the communication apparatus may further include at least one storage module. The storage module may include data and/or instructions. Another module (for example, a receiving module, a sending module, or a processing module) in the communication apparatus may read the data and/or the instructions in the storage module, to implement a corresponding method.

**[00291]** It should be noted that, it should be understood that in the foregoing embodiments, the sending module may be a transmitter during actual implementation, and the receiving module may be a receiver during actual implementation. Alternatively, the sending module and the receiving module are implemented by using a transceiver. Alternatively, the sending module and the receiving module are implemented by using a communication port. In addition, the processing module may be implemented in a form of software invoked by a processing element, or may be implemented in a form of hardware. For example, the processing module may be at least one separately disposed processing element, or may be integrated into a chip of the foregoing apparatus for implementation. In addition, the processing module may be stored in a memory of the foregoing apparatus in a form of program code to be invoked by a processing element of the foregoing apparatus to perform a function of the foregoing processing module. In addition, all or a part of the modules may be integrated, or may be implemented independently. The processing element herein may be an integrated circuit, and has a signal processing capability. In an implementation process, steps in the foregoing methods or the foregoing modules can be implemented by using a hardware integrated logical circuit in the processing element, or by using instructions in a form of

software.

**[00292]** For example, the foregoing modules may be configured as one or more integrated circuits for implementing the foregoing methods, for example, one or more application-specific integrated circuits (application-specific integrated circuit, ASIC), one or more microprocessors (digital signal processor, DSP), or one or more field programmable gate arrays (field programmable gate array, FPGA). For another example, when one of the foregoing modules is implemented in a form of program code invoked by a processing element, the processing element may be a general-purpose processor, for example, a central processing unit (central processing unit, CPU) or another processor that can invoke the program code. For another example, these modules may be integrated together and implemented in a form of a system-on-a-chip (system-on-a-chip, SoC).

**[00293]** FIG. 19 is a diagram of a structure of yet another communication apparatus according to an embodiment of this application. As shown in FIG. 19, the communication apparatus 1900 includes at least one processor 1901. The processor 1901 is configured to implement the method performed by the terminal device or the network device.

**[00294]** Optionally, the communication apparatus 1900 may further include a memory 1902. The processor 1901 is coupled to the memory 1902. The memory 1902 is configured to store instructions. The processor 1901 is configured to execute the instructions stored in the memory 1902.

**[00295]** Optionally, the communication apparatus 1900 may further include a transceiver 1903. The processor 1901, the transceiver 1903, and the memory 1902 communicate with each other through an internal connection path. The memory 1902 is configured to store instructions. The processor 1901 is configured to execute the instructions stored in the memory 1902, to control the transceiver 1903 to send indication information and/or receive indication information.

**[00296]** The communication apparatus may be, for example, the foregoing network device, or may be the foregoing terminal device.

**[00297]** It should be understood that the communication apparatus may correspond to the terminal device in the foregoing method embodiments, or may correspond to the network device in the foregoing method embodiments, and may be configured to perform steps and/or procedures performed by the terminal device or the network device in the foregoing method embodiments. Optionally, the memory 1902 may include a read-only memory and a random access memory, and provide instructions and data for the processor 1901. A part of the memory 1902 may further include a non-volatile random access memory. The memory 1902 may be a separate component, or may be integrated into the processor 1901. The processor 1901 may be configured to execute the instructions stored in the memory 1902. When the processor 1901 executes the instructions

stored in the memory, the processor 1901 is configured to perform steps and/or procedures in the foregoing method embodiments.

**[00298]** The transceiver 1903 may include a transmitter and a receiver. The transceiver 1903 may further include an antenna. There may be one or more antennas. The processor 1901, the memory 1902, and the transceiver 1903 may be components integrated into different chips. For example, the processor 1901 and the memory 1902 may be integrated into a baseband chip, and the transceiver 1903 may be integrated into a radio frequency chip. Alternatively, the processor 1901, the memory 1902, and the transceiver 1903 may be components integrated into a same chip. This is not limited in this application.

**[00299]** Optionally, the communication apparatus is a component configured in a terminal device or a network device, for example, a chip or a chip system.

**[00300]** The transceiver 1903 may alternatively be a communication interface, for example, an input interface and/or an output interface, or a circuit. The transceiver 1903, the processor 1901, and the memory 1902 may be integrated into the same chip, for example, integrated into the baseband chip.

**[00301]** It should be understood that the foregoing communication apparatus may be one or more chips. For example, the communication apparatus may be a field programmable gate array (field programmable gate array, FPGA), an application-specific integrated chip (application-specific integrated circuit, ASIC), a system-on-a-chip (system-on-a-chip, SoC), a central processing unit (central processing unit, CPU), a network processor (network processor, NP), a digital signal processing circuit (digital signal processor, DSP), a micro controller unit (micro controller unit, MCU), a programmable controller (programmable logic device, PLD), or another integrated chip.

**[00302]** In an implementation process, steps in the foregoing methods can be implemented by using a hardware integrated logical circuit in the processor, or by using instructions in a form of software. The steps of the method disclosed with reference to embodiments of this application may be directly performed and completed by a hardware processor, or may be performed by using a combination of hardware in the processor and a software module. The software module may be located in a mature storage medium in the art, such as a random access memory, a flash memory, a read-only memory, a programmable read-only memory, an electrically erasable programmable memory, or a register. The storage medium is located in the memory, and the processor reads information in the memory and completes the steps in the foregoing methods in combination with hardware of the processor. To avoid repetition, details are not described herein again.

**[00303]** It should be noted that, the processor in embodiments of this application may be an integrated circuit chip, and has a signal processing capability. In an implementation process, steps

in the foregoing method embodiments can be implemented by using a hardware integrated logical circuit in the processor, or by using instructions in a form of software. The processor may be a general-purpose processor, a digital signal processor (DSP), an application-specific integrated circuit (ASIC), a field programmable gate array (FPGA) or another programmable logic device, a discrete gate or a transistor logic device, or a discrete hardware component. The processor may implement or perform the methods, the steps, and logical block diagrams that are disclosed in embodiments of this application. The general-purpose processor may be a microprocessor, or the processor may be any conventional processor or the like. The steps in the methods disclosed with reference to embodiments of this application may be directly performed and completed by a hardware decoding processor, or may be performed and completed by using a combination of hardware and software modules in the decoding processor. The software module may be located in a mature storage medium in the art, such as a random access memory, a flash memory, a read-only memory, a programmable read-only memory, an electrically erasable programmable memory, or a register. The storage medium is located in the memory, and the processor reads information in the memory and completes the steps in the foregoing methods in combination with hardware of the processor.

**[00304]** It may be understood that the memory in this embodiment of this application may be a volatile memory or a nonvolatile memory, or may include a volatile memory and a nonvolatile memory. The nonvolatile memory may be a read-only memory (read-only memory, ROM), a programmable read-only memory (programmable ROM, PROM), an erasable programmable read-only memory (erasable PROM, EPROM), an electrically erasable programmable read-only memory (electrically EPROM, EEPROM), or a flash memory. The volatile memory may be a random access memory (random access memory, RAM) that is used as an external cache. Through example but not limitative description, many forms of RAMs may be used, for example, a static random access memory (static RAM, SRAM), a dynamic random access memory (dynamic RAM, DRAM), a synchronous dynamic random access memory (synchronous DRAM, SDRAM), a double data rate synchronous dynamic random access memory (double data rate SDRAM, DDR SDRAM), an enhanced synchronous dynamic random access memory (enhanced SDRAM, ESDRAM), a synchronous link dynamic random access memory (synchlink DRAM, SLDRAM), and a direct rambus random access memory (direct rambus RAM, DR RAM). It should be noted that the memory described in this specification is intended to include but is not limited to these memories and any other suitable type of memories.

**[00305]** An embodiment of this application further provides a communication system. The system includes a first apparatus and a second apparatus. The first apparatus is the terminal device in the foregoing embodiment, and the second apparatus is the network device in the foregoing

embodiment. The first apparatus may implement the method performed by the terminal device in the foregoing embodiment, and the second apparatus may implement the method performed by the network device in the foregoing embodiment.

**[00306]** This application further provides a chip. The chip stores a computer program, and when the computer program is executed by the chip, the method in the foregoing embodiment is implemented.

**[00307]** This application further provides a computer-readable storage medium. The computer-readable storage medium may include any medium that can store program code, such as a USB flash drive, a removable hard disk, a read-only memory (ROM, Read-Only Memory), and a random access memory (RAM, Random Access Memory), a magnetic disk, or an optical disc. Specifically, the computer-readable storage medium stores program instructions, and the method in the foregoing embodiment is implemented when the program instructions are executed.

**[00308]** This application further provides a computer program product. The program product includes execution instructions, and the execution instructions are stored in a readable storage medium. At least one processor of a communication device may read the executable instructions from the readable storage medium. The at least one processor executes the executable instructions, so that the communication device performs the communication method provided in the foregoing implementations.

**[00309]** Finally, it should be noted that the foregoing embodiments are merely intended to describe the technical solutions of this application instead of limiting this application. Although this application is described in detail with reference to the foregoing embodiments, a person of ordinary skill in the art should understand that modifications may still be made to the technical solutions described in the foregoing embodiments or equivalent replacements may be made to a part or all of technical features thereof, without causing the essence of corresponding technical solutions to depart from the scope of the technical solutions of embodiments of this application.

## CLAIMS

1. A communication method, comprising:

receiving first information, wherein the first information is information indicating a terminal device to perform measurement, and/or cell reselection, and/or handover, and the information corresponds to an area of a serving cell of the terminal device or a beam of the serving cell; and

determining, based on the first information, whether to perform measurement, and/or cell reselection, and/or handover.

2. The method according to claim 1, wherein the first information comprises a distance threshold; and

the determining, based on the first information, whether to perform measurement, and/or cell reselection, and/or handover comprises:

determining, based on the distance threshold, whether to perform measurement, and/or cell reselection, and/or handover.

3. The method according to claim 2, wherein the determining, based on the distance threshold, whether to perform measurement, and/or cell reselection, and/or handover comprises:

if a distance from the terminal device to a reference point of the serving cell is greater than or equal to the distance threshold, determining that the terminal device is to perform measurement, and/or cell reselection, and/or handover; or

if a difference between the distance from the terminal device to the reference point of the serving cell and a distance from the terminal device to a reference point of a neighboring cell is greater than or equal to the distance threshold, determining that the terminal device is to perform measurement, and/or cell reselection, and/or handover.

4. The method according to claim 2 or 3, wherein the first information indicates a correspondence between a first area or a first beam and the distance threshold, the first area is a partial area of the serving cell, and the first beam is a beam of the serving cell.

5. The method according to any one of claims 1 to 4, wherein the information corresponding to the beam of the serving cell is information corresponding to a beam set of the serving cell, and the beam set comprises one or more beams.

6. The method according to any one of claims 2 to 5, wherein the first information indicates the distance threshold corresponding to a second beam of the serving cell; and

the receiving the first information comprises:

receiving the first information via the second beam.

7. The method according to claim 1, wherein the first information comprises information about a second area or a third beam of the serving cell for performing measurement, and/or cell

reselection, and/or handover; and

the determining, based on the first information, whether the terminal device is to perform measurement, and/or cell reselection, and/or handover comprises:

if the terminal device is located in the second area or on the third beam, determining that the terminal device is to perform measurement, and/or cell reselection, and/or handover.

8. The method according to claim 7, wherein if the first information comprises the information about the second area, the information about the second area comprises an identifier of the second area; or

if the first information comprises the information about the third beam, the information about the third beam comprises an identifier of the third beam.

9. The method according to claim 7, wherein the first information comprises a bitmap, and one bit in the bitmap corresponds to one beam of the serving cell;

if a value of a bit in the beam bitmap is a first value, a beam corresponding to the bit is the third beam; or

if a value of a bit in the beam bitmap is a second value, a beam corresponding to the bit is not the third beam.

10. The method according to any one of claims 7 to 9, wherein the first information indicates whether a fourth beam of the serving cell is the third beam; and

the receiving the first information comprises:

receiving the first information via the fourth beam.

11. The method according to any one of claims 1 to 10, wherein the serving cell is a non-terrestrial network NTN cell.

12. A communication method, comprising:

sending first information, wherein the first information is information indicating a terminal device to perform measurement, and/or cell reselection, and/or handover, and the information corresponds to an area of a serving cell of the terminal device or a beam of the serving cell.

13. The method according to claim 12, wherein the first information comprises a distance threshold, and the distance threshold is used to determine whether to perform measurement, and/or cell reselection, and/or handover.

14. The method according to claim 13, wherein the first information indicates a correspondence between a first area or a first beam and the distance threshold, the first area is a partial area of the serving cell, and the first beam is a beam of the serving cell.

15. The method according to claim 13 or 14, wherein the first information indicates the distance threshold corresponding to a second beam of the serving cell; and

the sending the first information comprises:

sending the first information via the second beam.

16. The method according to claim 12, wherein the first information comprises information about a second area or a third beam of the serving cell for performing measurement, and/or cell reselection, and/or handover.

17. A communication method, comprising:

receiving second information, wherein the second information indicates beam layout information of a serving cell of a terminal device.

18. The method according to claim 17, further comprising:

performing measurement based on the beam layout information.

19. The method according to claim 17 or 18, wherein the beam layout information comprises at least one of the following: a sorting rule for beams of the serving cell and width information of a beam set of the serving cell.

20. The method according to claim 19, wherein the sorting rule for the beams of the serving cell comprises a rule for sorting beam identifiers in ascending order or a rule for sorting beam identifiers in descending order.

21. The method according to claim 19 or 20, wherein the width information of the beam set comprises a quantity of columns occupied by the beams in the beam set or a quantity of rows occupied by the beams in the beam set.

22. The method according to any one of claims 17 to 21, wherein the performing measurement based on the beam layout information comprises:

determining a sixth beam based on a fifth beam on which the terminal device is located and the beam layout information; and

performing measurement on the fifth beam and/or the sixth beam.

23. The method according to claim 22, wherein the sixth beam is a beam adjacent to the fifth beam, or the sixth beam is a beam in a beam set adjacent to the fifth beam.

24. The method according to any one of claims 17 to 23, wherein the serving cell is a non-terrestrial network NTN cell.

25. A communication method, comprising:

sending second information, wherein the second information indicates beam layout information of a serving cell of a terminal device.

26. The method according to claim 25, wherein the beam layout information comprises at least one of the following: a sorting rule for beams of the serving cell and width information of a beam set of the serving cell.

27. The method according to claim 26, wherein the sorting rule for the beams of the serving cell comprises a rule for sorting beam identifiers in ascending order or a rule for sorting beam

identifiers in descending order.

28. The method according to claim 26 or 27, wherein the width information of the beam set comprises a quantity of columns occupied by the beams in the beam set or a quantity of rows occupied by the beams in the beam set.

29. A communication apparatus, comprising a module configured to perform the method according to any one of claims 1 to 28.

30. A computer-readable storage medium, configured to store a computer program, wherein the computer program comprises instructions used for implementing the method according to any one of claims 1 to 28.