

CLAIMS

1. A method for wireless communication, which is performed in a communication system using at least two beams, the method comprising:

determining, by a network device, transmission resources available for M downlink beam groups, each downlink beam group comprising at least one beam of the at least two beams and $M \geq 1$; and

sending, by the network device, configuration information to a first terminal device, the configuration information being used to indicate the transmission resource available for each downlink beam group,

wherein sending, by the network device, the configuration information to the first terminal device comprises:

sending, by the network device, the configuration information to a plurality of terminal devices comprising the first terminal device through a Physical Broadcast Channel (PBCH),

wherein the transmission resource available for each downlink beam group comprises no transmission resource reserved by the communication system.

2. The method of claim 1, wherein the configuration information is used to indicate one-to-one mapping relationships between the M downlink beam groups and M transmission resources.

3. The method of claim 1 or 2, wherein sending, by the network device, the configuration information to the first terminal device comprises:

sending, by the network device, first configuration information to the first terminal device, the first configuration information being used to indicate configurations of Q transmission resources and one-to-one mapping relationships between the Q transmission resources and Q first identifiers (IDs), wherein $Q \geq M$ and the Q transmission resources comprise the transmission resources available for the M downlink beam groups; and

sending, by the network device, second configuration information to the first

terminal device, the second configuration information indicating the first ID corresponding to the transmission resource available for each of the M downlink beam groups.

4. The method of any one of claims 1-3, wherein the transmission resource comprises a time-domain transmission resource.

5. The method of claim 4, wherein a time-domain resource available for the communication system where the network device is located is divided into at least two time units in a time domain, and

the configuration information is used to indicate a position of a time unit in the transmission resource available for each downlink beam group in the at least two time units.

6. The method of any one of claims 1-5, wherein the transmission resource comprises a frequency-domain transmission resource.

7. The method of any one of claims 1-6, wherein the transmission resource reserved by the communication system is only used to transmit a specified service or a specified channel.

8. The method of any one of claims 1-7, wherein the transmission resource available for a first downlink beam group of the M downlink beam groups comprises at least one of: a first transmission resource for a control channel carrying the first downlink beam group or a second transmission resource for a data channel carrying the first downlink beam group.

9. A method for wireless communication, which is performed in a communication system using at least two beams, the method comprising:

receiving, by a first terminal device, configuration information sent by a network device, the configuration information being used to indicate a transmission resource available for each of M downlink beam groups, and each downlink beam

group comprising at least one beam of the at least two beams and $M \geq 1$; and

determining, by the first terminal device, the transmission resource available for each of the M downlink beam groups according to the configuration information,

wherein receiving, by the first terminal device, the configuration information sent by the network device comprises:

receiving, by the first terminal device, the configuration information sent to a plurality of terminal devices comprising the first terminal device by the network device through a Physical Broadcast Channel (PBCH),

wherein the transmission resource available for each downlink beam group comprises no transmission resource reserved by the communication system.

10. The method of claim 9, wherein the configuration information is used to indicate one-to-one mapping relationships between the M downlink beam groups and M transmission resources.

11. The method of claim 9 or 10, wherein receiving, by the first terminal device, the configuration information sent by the network device comprises:

receiving, by the first terminal device, first configuration information sent by the network device, the first configuration information being used to indicate configurations of Q transmission resources and one-to-one mapping relationships between the Q transmission resources and Q first identifiers (IDs), wherein $Q \geq M$ and the Q transmission resources comprise transmission resources available for the M downlink beam groups; and

receiving, by the first terminal device, second configuration information sent by the network device, the second configuration information comprising the first ID corresponding to the transmission resource available for each of the M downlink beam groups.

12. The method of any one of claims 9-11, wherein the transmission resource comprises a time-domain transmission resource.

13. The method of claim 12, wherein a time-domain resource available for the

communication system where the network device is located is divided into at least two time units in a time domain, and

the configuration information is used to indicate a position of a time unit in the transmission resource available for each downlink beam group in the at least two time units.

14. The method of any one of claims 9-13, wherein the transmission resource comprises a frequency-domain transmission resource.

15. The method of any one of claims 9-14, wherein the transmission resource reserved by the communication system is only used to transmit a specified service or a specified channel.

16. The method of any one of claims 9-15, wherein the transmission resource available for a first downlink beam group of the M downlink beam groups comprises at least one of: a first transmission resource for a control channel carrying the first downlink beam group or a second transmission resource for a data channel carrying the first downlink beam group.

17. A device for wireless communication, which is configured in a communication system using at least two beams, the device comprising:

a determination unit, configured to determine transmission resources available for M downlink beam groups, each downlink beam group comprising at least one beam of the at least two beams and $M \geq 1$; and

a communication unit, configured to send configuration information to a first terminal device, the configuration information being used to indicate the transmission resource available for each downlink beam group,

wherein the communication unit is configured to send the configuration information to a plurality of terminal devices comprising the first terminal device through a Physical Broadcast Channel (PBCH),

wherein the transmission resource available for each downlink beam group comprises no transmission resource reserved by the communication system.

18. The device of claim 17, wherein the configuration information is used to indicate one-to-one mapping relationships between the M downlink beam groups and M transmission resources.

19. The device of claim 17 or 18, wherein the communication unit is configured to send first configuration information to the first terminal device, the first configuration information being used to indicate configurations of Q transmission resources and one-to-one mapping relationships between the Q transmission resources and Q first identifiers (IDs), wherein $Q \geq M$ and the Q transmission resources comprise the transmission resources available for the M downlink beam groups; and

the communication unit is further configured to send second configuration information to the first terminal device, the second configuration information comprising the first ID corresponding to the transmission resource available for each of the M downlink beam groups.

20. The device of any one of claims 17-19, wherein the transmission resource comprises a time-domain transmission resource.

21. The device of claim 20, wherein a time-domain resource available for the communication system where the device is located is divided into at least two time units in a time domain, and

the configuration information is used to indicate a position of a time unit in the transmission resource available for each downlink beam group in the at least two time units.

22. The device of any one of claims 17-21, wherein the transmission resource comprises a frequency-domain transmission resource.

23. The device of any one of claims 17-22, wherein the transmission resource reserved by the communication system is only used to transmit a specified service or a specified channel.

24. The device of any one of claims 17-23, wherein the transmission resource available for a first downlink beam group of the M downlink beam groups comprises at least one of: a first transmission resource for a control channel carrying the first downlink beam group or a second transmission resource for a data channel carrying the first downlink beam group.

25. A device for wireless communication, which is configured in a communication system using at least two beams, the device comprising:

- a communication unit, configured to receive configuration information sent by a network device, the configuration information being used to indicate a transmission resource available for each of M downlink beam groups, and each downlink beam group comprising at least one beam of the at least two beams and $M \geq 1$; and

- a determination unit, configured to determine the transmission resource available for each of the M downlink beam groups according to the configuration information,

- wherein the communication unit is configured to receive the configuration information sent to a plurality of terminal devices comprising the device by the network device through a Physical Broadcast Channel (PBCH),

- wherein the transmission resource available for each downlink beam group comprises no transmission resource reserved by the communication system.

26. The device of claim 25, wherein the configuration information is used to indicate one-to-one mapping relationships between the M downlink beam groups and M transmission resources.

27. The device of claim 25 or 26, wherein the communication unit is configured to receive first configuration information sent by the network device, the first configuration information being used to indicate configurations of Q transmission resources and one-to-one mapping relationships between the Q transmission resources and Q first identifier (IDs), wherein $Q \geq M$ and the Q transmission resources comprise transmission resources available for the M downlink beam groups; and

the communication unit is configured to receive second configuration information sent by the network device, the second configuration information comprising the first ID corresponding to the transmission resource available for each of the M downlink beam groups.

28. The device of any one of claims 25-27, wherein the transmission resource comprises a time-domain transmission resource.

29. The device of claim 28, wherein a time-domain resource available for the communication system where the network device is located is divided into at least two time units in a time domain, and

the configuration information is used to indicate a position of a time unit in the transmission resource available for each downlink beam group in the at least two time units.

30. The device of any one of claims 25-29, wherein the transmission resource comprises a frequency-domain transmission resource.

31. The device of any one of claims 25-30, wherein the transmission resource reserved by the communication system is only used to transmit a specified service or a specified channel.

32. The device of any one of claims 25-31, wherein the transmission resource available for a first downlink beam group of the M downlink beam groups comprises at least one of: a first transmission resource for a control channel carrying the first downlink beam group or a second transmission resource for a data channel carrying the first downlink beam group.