CORESET pool index corresponding to the TCI state index. That is, the target indication field indicates which TRP and/or CORESET pool corresponds to the TCI state index. Each CORESET pool index has a correspondence with a TRP. After determining the CORESET pool index, the corresponding TRP can be determined, for example, which may be the first TRP or the second TRP.

[00301] As a second implementation, in the first DCI and the second DCI, each TCI state index corresponds to a preset TRP ID and/or a CORESET pool index. That is, different TCI state indexes correspond to respective TRP IDs, i.e., different TRP IDs correspond to different TCI state indexes. For example, if the TCI state indexes corresponding to the first TRP are 1 and 2, the TCI state indexes corresponding to the second TRP are 3 and 4. Therefore, according to a preset TRP ID corresponding to the TCI state index, it can be determined which TRP is the corresponding TRP, for example, the first TRP or the second TRP. Alternatively, different TCI state indexes correspond to respective CORESET pool indexes, according to a preset CORESET pool index corresponding to the TCI state index, it can be determined which TRP is the corresponding TRP, for example, the first TRP or the second TRP. There is a correspondence between CORESET pool indexes and TRPs, if the CORESET pool index is determined, it can be determined which TRP is the corresponding TRP, for example, the first TRP or the second TRP.

[00302] As a third implementation, a TRP ID and/or a CORESET pool index corresponding to the TCI state index in either the first DCI or the second DCI is a TRP ID and/or a CORESET pool index indicated by the MAC CE that activates the TCI state index.

[00303] Taking the first DCI as an example, as an implementation, the TRP ID corresponding to the TCI state index in the first DCI is the TRP ID indicated by the MAC CE that activates the TCI state index. That is, the MAC CE indicates the TRP ID. As an implementation, in a MAC CE format, the bit locations for activating the TCI state indexes of different TRPs are set differently. Based on the bit location, the TRP to which the activated TCI state index belongs can be determined. As a second implementation, the CORESET pool index corresponding to the TCI state index in the first DCI is the CORESET pool index indicated by the MAC CE that activates the TCI state index. As a third implementation, the MAC CE format contains a CORESET ID, and each CORESET ID corresponds to a unique CORESET pool index, so that the TRP corresponding to the TCI state index can be determined based on the CORESET ID. As a fourth implementation, different bit values can also be set to indicate whether to activate a TCI state index of a respective TRP and a

TRP of which the TCI state index is activated.

[00304] In the embodiment of the disclosure, the first indication information is sent to the terminal device using the first sending beam, in which the first sending beam corresponds to the first receiving beam, that is, the terminal device receives the first indication information using the first receiving beam. With respect to the method for determining the first receiving beam used by the terminal device, as an implementation of the embodiment of the disclosure, the first receiving beam is the initial receiving beam corresponding to the CORESET#0 associated with the first TRP. The initial receiving beam is the beam used for the first time by the terminal device to perform uplink and downlink transmission with the first TRP. The initial receiving beam corresponding to the CORESET#0 associated with the first TRP may be determined by the terminal device based on the detected RSRP value of the SSB sent by the network device. If the terminal device detects that the RSRP value exceeds the threshold, it initiates random access using a PRACH resource corresponding to the SSB, i.e., the receiving beam corresponding to the SSB is used as the initial receiving beam of the CORESET#0, so that the first receiving beam is determined.

[00305] FIG. 4 is a flowchart of another beam indication method provided by an embodiment of the disclosure. The method is applicable to a network device. Another method for indicating a first receiving beam of a terminal device is illustrated. As illustrated in FIG. 4, the method includes the following steps.

[00306] At step 401, second indication information is sent to the terminal device using a sending beam corresponding to a known receiving beam of the terminal device.

[00307] The second indication information is configured to indicate the first receiving beam of the terminal device, and the known receiving beam corresponds to the first TRP.

[00308] In the embodiment of the disclosure, the known receiving beam is a beam already employed by the terminal device when the first TRP sends downlink transmission to the terminal device. As an implementation, the known receiving beam corresponds to the CORESET#0 associated with the first TRP. That is, the known receiving beam is the beam corresponding to the CORESET#0 determined when the RSRP value of the SSB sent by the network device is detected by the terminal device to be greater than the threshold. As another implementation, the known receiving beam corresponding to the third CORESET associated with the first TRP is indicated by third indication information sent using the CORESET#0 associated with the first TRP.

[00399] in which, the third MAC CE is configured to indicate an ID of a second CORESET associated with the second TRP and a TCI state index corresponding to the update beam of the second TRP, and the update beam of the second TRP corresponds to the second CORESET.

[00400] As a possible implementation, the first indication information is a fourth MAC CE and second DCI;

[00401] in which, the fourth MAC CE is configured to indicate a plurality of activated TCI state indexes; and

[00402] the second DCI is configured to indicate a TCI state index corresponding to the update beam of the second TRP, and the TCI state index is one TCI state index of the plurality of activated TCI state indexes included in the fourth MAC CE.

[00403] As a possible implementation, the plurality of activated TCI state indexes carried in the fourth MAC CE include a TCI state index corresponding to an initial beam of the second TRP.

[00404] As a possible implementation, the first DCI and the second DCI include a target indication field, and the target indication field is configured to indicate a TRP ID and/or a CORESET pool index corresponding to the TCI state index.

[00405] As a possible implementation, in the first DCI and the second DCI, each TCI state index corresponds to a preset TRP ID and/or a CORESET pool index.

[00406] As a possible implementation, a TRP ID and/or a CORESET pool index corresponding to the TCI state index in either the first DCI or the second DCI is a TRP ID and/or a CORESET pool index indicated by the MAC CE that activates the TCI state index.

[00407] As a possible implementation, the terminal device is further configured to perform the following operation:

[00408] determining the first receiving beam;

[00409] in which, the first receiving beam is an initial receiving beam of a CORESET CORESET#0 associated with the first TRP.

[00410] As a possible implementation, the terminal device is further configured to perform the following operation:

[00411] receiving second indication information using a known receiving beam corresponding to the first TRP, in which the second indication information is configured to determine the first receiving beam.

[00412] As a possible implementation, the known receiving beam corresponds to a

first receiving beam corresponds to the second TRP, and the second receiving beam corresponds to an update beam of the second TRP.

[00429] As a possible implementation, the first indication information is a third MAC CE;

[00430] in which, the third MAC CE is configured to indicate an ID of a second CORESET associated with the second TRP and a TCI state index corresponding to the update beam of the second TRP, and the update beam of the second TRP corresponds to the second CORESET.

[00431] As a possible implementation, the first indication information is a fourth MAC CE and second DCI;

[00432] in which, the fourth MAC CE is configured to indicate a plurality of activated TCI state indexes; and

[00433] the second DCI is configured to indicate a TCI state index corresponding to the update beam of the second TRP, and the TCI state index is one TCI state index of the plurality of activated TCI state indexes included in the fourth MAC CE.

[00434] As a possible implementation, the plurality of TCI state indexes carried in the fourth MAC CE include a TCI state index corresponding to an initial beam of the second TRP.

[00435] As a possible implementation, the first DCI and the second DCI include a target indication field, and the target indication field is configured to indicate a TRP ID and/or a CORESET pool index corresponding to the TCI state index.

[00436] As a possible implementation, in the first DCI and the second DCI, each TCI state index corresponds to a preset TRP ID and/or a CORESET pool index.

[00437] As a possible implementation, a TRP ID and/or a CORESET pool index corresponding to the TCI state index in either the first DCI or the second DCI is a TRP ID and/or a CORESET pool index indicated by the MAC CE that activates the TCI state index.

[00438] As a possible implementation, the first receiving beam is an initial receiving beam corresponding to a CORESET CORESET#0 associated with the first TRP.

[00439] As a possible implementation, the network device is further configured to perform the following operation:

[00440] sending second indication information to the terminal device using a sending beam corresponding to a known receiving beam of the terminal device;

[00441] in which, the second indication information is configured to indicate the first receiving beam of the terminal device, and the known receiving beam corresponds to the first

CLAIMS

WHAT IS CLAIMED IS:

1. A beam indication method, performed by a terminal device, comprising:

receiving (101, 202), using a first receiving beam, first indication information sent by a network device, wherein the first indication information indicates a second receiving beam;

wherein the first receiving beam corresponds to a first Transmission and Reception Point (TRP) or a second TRP, and the second receiving beam corresponds to the second TRP.

2. The method of claim 1, wherein the first receiving beam corresponds to the first TRP, and the second receiving beam corresponds to an initial beam of the second TRP.

3. The method of claim 2, wherein the first indication information is a first Medium Access Control Control Element (MAC CE);

wherein the first MAC CE is configured to indicate an identification (ID) of a first Control Resource Set (CORESET) associated with the second TRP and a Transmission Configuration Indicator (TCI) state index corresponding to the initial beam of the second TRP, wherein the initial beam of the second TRP corresponds to the first CORESET.

4. The method of claim 2, wherein the first indication information is a second MAC CE and first Downlink Control Information (DCI);

wherein the second MAC CE is configured to indicate a plurality of activated TCI state indexes; and

the first DCI is configured to indicate a TCI state index corresponding to the initial beam of the second TRP, and the TCI state index is one TCI state index of the plurality of activated TCI state indexes comprised in the second MAC CE.

5. The method of claim 1, wherein the first receiving beam corresponds to the first TRP, and the second receiving beam corresponds to an update beam of the second TRP; or

the first receiving beam corresponds to the second TRP, and the second receiving beam corresponds to an update beam of the second TRP.

6. The method of claim 5, wherein the first indication information is a third MAC CE;

wherein the third MAC CE is configured to indicate an ID of a second CORESET associated with the second TRP and a TCI state index corresponding to the update beam of the second TRP, wherein the update beam of the second TRP corresponds to the second

CORESET.

7. The method of claim 5, wherein the first indication information is a fourth MAC CE and a second DCI;

wherein the fourth MAC CE is configured to indicate a plurality of activated TCI state indexes; and

the second DCI is configured to indicate a TCI state index corresponding to the update beam of the second TRP, and the TCI state index is one TCI state index of the plurality of activated TCI state indexes comprised in the fourth MAC CE.

8. The method of claim 4 or 7, wherein in the first DCI and the second DCI, each TCI state index corresponds to a preset TRP ID and/or a CORESET pool index.

9. The method of claim 4 or 7, wherein a TRP ID and/or a CORESET pool index corresponding to the TCI state index in either the first DCI or the second DCI is a TRP ID and/or a CORESET pool index indicated by the MAC CE that activates the TCI state index.

10. A beam indication method, performed by a network device, comprising:

sending (301, 402) first indication information to a terminal device using a first sending beam;

wherein the first indication information indicates a second receiving beam of the terminal device, and the first sending beam corresponds to a first receiving beam of the terminal device; and

the first receiving beam corresponds to a first Transmission and Reception Point (TRP) or a second TRP, and the second receiving beam corresponds to the second TRP.

11. The method of claim 10, wherein the first receiving beam corresponds to the first TRP, and the second receiving beam corresponds to an initial beam of the second TRP.

12. The method of claim 11, wherein the first indication information is a first Medium Access Control Control Element (MAC CE),

wherein the first MAC CE is configured to indicate an identification (ID) of a first Control Resource Set (CORESET) associated with the second TRP and a Transmission Configuration Indicator (TCI) state index corresponding to the initial beam of the second TRP, wherein the initial beam of the second TRP corresponds to the first CORESET.

13. The method of claim 11, wherein the first indication information is a second MAC

CE and first Downlink Control Information (DCI);

wherein the second MAC CE is configured to indicate a plurality of activated TCI state indexes; and

the first DCI is configured to indicate a TCI state index corresponding to the initial beam of the second TRP, and the TCI state index is one TCI state index of the plurality of activated TCI state indexes comprised in the second MAC CE.

14. The method of claim 10, wherein the first receiving beam corresponds to the first TRP, and the second receiving beam corresponds to an update beam of the second TRP; or

the first receiving beam corresponds to the second TRP, and the second receiving beam corresponds to an update beam of the second TRP.

15. The method of claim 14, wherein the first indication information is a third MAC CE;

wherein the third MAC CE is configured to indicate an ID of a second CORESET associated with the second TRP and a TCI state index corresponding to the update beam of the second TRP, wherein the update beam of the second TRP corresponds to the second CORESET.

16. The method of claim 14, wherein the first indication information is a fourth MAC CE and a second DCI;

wherein the fourth MAC CE is configured to indicate a plurality of activated TCI state indexes; and

the second DCI is configured to indicate a TCI state index corresponding to the update beam of the second TRP, and the TCI state index is one TCI state index of the plurality of activated TCI state indexes comprised in the fourth MAC CE.

17. The method of claim 13 or 16, wherein in the first DCI and the second DCI, each TCI state index corresponds to a preset TRP ID and/or a CORESET pool index.

18. The method of claim 13 or 16, wherein a TRP ID and/or a CORESET pool index corresponding to the TCI state index in either the first DCI or the second DCI is a TRP ID and/or a CORESET pool index indicated by the MAC CE that activates the TCI state index.

19. A terminal device, comprising:

a memory and a processor;

wherein, the memory is configured to store computer programs, and the processor is

configured to read the computer programs in the memory to perform the method according to any one of claims 1-9.

20. A network device, comprising:

a memory and a processor;

wherein, the memory is configured to store computer programs, and the processor is configured to read the computer programs in the memory to perform the method according to any one of claims 10-18.

21. A computer storage medium having computer-executable instructions stored thereon, wherein when the computer-executable instructions are executed by a processor, the method of any one of claims 1 to 9 is implemented.

22. A computer storage medium having computer-executable instructions stored thereon, wherein when the computer-executable instructions are executed by a processor, the method of any one of claims 10 to 18 is implemented.