

CLAIMS

1. A method for managing beams, comprising:

sending, by a terminal device, characteristic information of each beam in a first beam set to a first network device, wherein the first beam set comprises at least one beam, and the characteristic information is used for the first network device to determine a target beam;

receiving, by the terminal device, indication information sent by the first network device, wherein the indication information is used for indicating the target beam determined by the first network device; and

performing, by the terminal device, the beam management according to the target beam.

2. The method of claim 1, further comprising:

acquiring, by the terminal device, channel quality of each beam in the first beam set, wherein sending, by a terminal device, characteristic information of each beam in a first beam set to a first network device comprises:

sending, by the terminal device, the characteristic information of each beam in the first beam set to the first network device; and the characteristic information carries channel quality information used for indicating channel quality.

3. The method of claim 1 or 2, wherein the first beam set is determined in accordance with a relationship between channel quality of a beam in a second beam set and preset channel quality; the second beam set comprises one or more beams, characteristic information of which can be measured by the terminal device in a first beam used by the terminal device; and the first beam corresponds to the first network device.

4. The method of claim 3, further comprising:

determining, by the terminal device, the first beam set according to a relationship among the channel quality of the first beam, the channel quality of the beam in the second beam set and the preset channel quality,

wherein managing, by the terminal device, beam connection according to the target beam comprises:

performing, by the terminal device, beam switching from the first beam to the target beam according to the target beam.

5. The method of claim 4, wherein determining, by the terminal device, the first beam set according to the channel quality of the first beam comprises:

responsive to that the channel quality of the first beam is smaller than a first preset channel quality threshold value, determining, by the terminal device, at least one beam greater than a second preset channel quality threshold value in the second beam set as the first beam set.

6. The method of claim 4, wherein determining, by the terminal device, the first beam set according to the channel quality of the first beam comprises:

responsive to that the channel quality of the first beam is smaller than the first preset channel quality threshold value, determining, by the terminal device, at least one beam greater than the second preset channel quality threshold value in the second beam set as a third beam set; and

determining, by the terminal device, a beam with the highest channel quality in the third beam set as the first beam set.

7. The method of claim 3, further comprising:
determining, by the terminal device, at least one beam greater than the second preset channel quality threshold value in the second beam set as the first beam set,
wherein managing, by the terminal device, beam connection according to the target beam comprises:
establishing, by the terminal device, auxiliary connection of the target beam according to the target beam.
8. The method of claim 3, further comprising:
determining, by the terminal device, at least one beam greater than the second preset channel quality threshold value in the second beam set as the third beam set; and
determining, by the terminal device, a beam with the highest channel quality in the third beam set as the first beam set,
wherein managing, by the terminal device, beam connection according to the target beam comprises:
establishing, by the terminal device, the auxiliary connection of the target beam according to the target beam.
9. The method of claim 3, further comprising:
determining, by the terminal device, at least one beam smaller than the first preset channel quality threshold value in the second beam set as the first beam set,
wherein managing, by the terminal device, beam connection according to the target beam comprises:
deleting, by the terminal device, the auxiliary connection of the target beam according to the target beam.
10. The method of claim 3, further comprising:
determining, by the terminal device, at least one beam smaller than the first preset channel quality threshold value in the second beam set as the third beam set; and
determining, by the terminal device, a beam with the lowest channel quality in the third beam set as the first beam set,
wherein managing, by the terminal device, beam connection according to the target beam comprises:
deleting, by the terminal device, the auxiliary connection of the target beam according to the target beam.
11. The method of any one of claims 3-10, wherein the first beam is a boundary beam of a fourth beam set; and characteristic information of each of a plurality of beams comprised in the fourth beam set is the same as that of the first beam.
12. The method of any one of claims 1-11, wherein the indication information carries at least one of a beam Identity (ID) of the target beam, a beam group ID of the target beam, a cell ID, a network device ID of a second network device or beam configuration information; and the second network device is a network device corresponding to the target beam.
13. The method of claim 1 or 2, wherein managing, by the terminal device, beam connection according to the target beam comprises:

sending, by the terminal device, a signal by using the target beam.

14. The method of any one of claims 1-13, wherein the characteristic information of each beam in the first beam set further carries at least one of the beam ID or the beam group ID.

15. A method for managing beams, comprising:

receiving, by a first network device, characteristic information of each beam in a first beam set from a terminal device, wherein the first beam set comprises a plurality of beams;

determining, by the first network device, a target beam in the first beam set according to the characteristic information of each beam in the first beam set; and

sending, by the first network device, indication information to the terminal device, wherein the indication information is used for indicating the target beam determined by the first network device.

16. A terminal device for managing beams, comprising:

a sending module, configured to send characteristic information of each beam in a first beam set to a first network device, wherein the first beam set comprises at least one beam, and the characteristic information is used for the first network device to determine a target beam;

a receiving module, configured to receive indication information sent by the first network device, wherein the indication information is used for indicating the target beam determined by the first network device; and

a processing module, configured to perform the beam management according to the target beam.

17. The terminal device of claim 16, wherein the receiving module is further configured to acquire channel quality of each beam in the first beam set; and

the sending module is specifically configured to:

send the characteristic information of each beam in the first beam set to the first network device, wherein the characteristic information carries channel quality information used for indicating the channel quality.

18. The terminal device of claim 16 or 17, wherein the first beam set is determined in accordance with a relationship between a beam in a second beam set and preset channel quality; the second beam set comprises one or more beams, characteristic information of which can be measured by the terminal device in a first beam used by the terminal device; and the first beam corresponds to the first network device.

19. The terminal device of claim 18, wherein the processing module is specifically configured to: determine the first beam set according to channel quality of the first beam; and

perform beam switching from the first beam to the target beam according to the target beam.

20. The terminal device of claim 19, wherein the processing module is specifically configured to:

responsive to that the channel quality of the first beam is smaller than a first preset channel quality threshold value, determine at least one beam greater than a second preset channel quality threshold value in the second beam set as the first beam set.

21. The terminal device of claim 19, wherein the processing module is specifically configured to:
responsive to that the channel quality of the first beam is smaller than the first preset channel quality threshold value, determine at least one beam greater than the second preset channel quality threshold value in the second beam set as a third beam set; and
determine a beam with the highest channel quality in the third beam set as the first beam set.
22. The terminal device of claim 18, wherein the processing module is specifically configured to:
determine at least one beam greater than the second preset channel quality threshold value in the second beam set as the first beam set; and
establish an auxiliary connection of the target beam according to the target beam.
23. The terminal device of claim 18, wherein the processing module is specifically configured to:
determine at least one beam greater than the second preset channel quality threshold value in the second beam set as the third beam set;
determine the beam with the highest channel quality in the third beam set as the first beam set; and
establish the auxiliary connection of the target beam according to the target beam.
24. The terminal device of claim 18, wherein the processing module is specifically configured to:
determine at least one beam smaller than the first preset channel quality threshold value in the second beam set as the first beam set; and
delete the auxiliary connection of the target beam according to the target beam.
25. The terminal device of claim 18, wherein the processing module is specifically configured to:
determine at least one beam smaller than the first preset channel quality threshold value in the second beam set as the third beam set; and
determine a beam with the lowest channel quality in the third beam set as the first beam set; and
delete the auxiliary connection of the target beam according to the target beam.
26. The terminal device of any one of claims 18-25, wherein the first beam is a boundary beam of a fourth beam set; and characteristic information of each of a plurality of beams comprised in the fourth beam set is the same as that of the first beam.
27. The terminal device of any one of claims 16-26, wherein the indication information carries at least one of a beam Identity (ID) of the target beam, a beam group ID of the target beam, a cell ID, a network device ID of a second network device or beam configuration information; and the second network device is a network device corresponding to the target beam.
28. The terminal device of claim 16 or 17, wherein the processing module is specifically configured to:
send a signal by using the target beam.
29. The terminal device of any one of claims 16-28, wherein the characteristic information of each beam in the first beam set further carries at least one of the beam ID or the beam group ID.

30. A first network device, comprising:

- a receiving module, configured to receive characteristic information of each beam in a first beam set from a terminal device, wherein the first beam set includes a plurality of beams;

- a processing module, configured to determine a target beam in the first beam set according to the characteristic information, received by the receiving module, of each beam in the first beam set; and

- a sending module, configured to send indication information to the terminal device, wherein the indication information is used for indicating the target beam determined by the first network device.