

Claims:

1. A method for transmitting an uplink signal, comprising:

determining, by a terminal device, a target downlink resource for transmitting a target downlink signal among a plurality of downlink resources;

5 determining, by the terminal device, target uplink pre-coding information according to the target downlink resource and a preset corresponding relationship, wherein the preset corresponding relationship is a corresponding relationship between downlink resources and uplink pre-coding information;

10 transmitting, by the terminal device, an uplink signal according to the target uplink pre-coding information;

wherein the target uplink pre-coding information is used for indicating a target uplink wideband pre-coding matrix; or, the target uplink pre-coding information is used for indicating a target uplink sounding signal, and the target uplink sounding signal is used for the terminal device to determine a target uplink wideband pre-coding matrix or a target uplink beam.

15 2. The method according to claim 1, wherein the target uplink pre-coding information is used for indicating the target uplink wideband pre-coding matrix;

wherein the transmitting, by the terminal device, the uplink signal according to the target uplink pre-coding information, comprises:

20 performing, by the terminal device, a wideband pre-coding processing on the uplink signal according to the target uplink wideband pre-coding matrix to obtain a pre-coded uplink signal; and

transmitting, by the terminal device, the pre-coded uplink signal.

3. The method according to claim 1, wherein the target uplink pre-coding information is used for indicating the target uplink beam;

25 wherein the transmitting, by the terminal device, the uplink signal according to the target uplink pre-coding information, comprises:

performing, by the terminal device, a beamforming processing on the uplink signal according to the target uplink beam to obtain a beamformed uplink signal; and

transmitting, by the terminal device, the beamformed uplink signal.

30 4. The method according to claim 1, wherein the target uplink pre-coding information is used for indicating the target uplink sounding signal;

wherein the transmitting, by the terminal device, the uplink signal according to the target uplink pre-coding information, comprises:

determining, by the terminal device, a beam used when transmitting the target uplink sounding signal as the target uplink beam;

5 performing, by the terminal device, a beamforming processing on the uplink signal according to the target uplink beam to obtain a beamformed uplink signal; and

transmitting, by the terminal device, the beamformed uplink signal.

5. The method according to claim 1, wherein the target uplink pre-coding information is used for indicating the target uplink sounding signal;

10 wherein before the terminal device determines the target downlink resource for transmitting the target downlink signal among the plurality of downlink resources, the method further comprises:

15 sending, by the terminal device, a plurality of uplink sounding signals to a network device, wherein the plurality of uplink sounding signals comprise the target uplink sounding signal, and the plurality of uplink sounding signals have a corresponding relationship with the plurality of downlink resources.

6. The method according to any one of claims 1-5, wherein the determining, by the terminal device, the target downlink resource for transmitting the target downlink signal among the plurality of downlink resources, comprises:

20 receiving, by the terminal device, resource configuration information sent by a network device, wherein the resource configuration information is used for indicating the target downlink resource;

determining, by the terminal device, the target downlink resource according to the resource configuration information; or,

25 determining, by the terminal device, a downlink resource where the target downlink signal is detected among the plurality of downlink resources as the target downlink resource.

7. The method according to any one of claims 1-6, wherein the target downlink signal is one of following signals: a downlink control channel, a downlink random access response signal, a downlink data channel, and a downlink reference signal.

30 8. The method according to any one of claims 1-7, wherein each downlink resource is a time domain resource; or, each downlink resource is a frequency domain resource, or each

downlink resource is a code resource.

9. A method for transmitting an uplink signal, comprising:

sending, by a network device, a target downlink signal to a terminal device on a target downlink resource among a plurality of downlink resources;

5 receiving, by the network device, an uplink signal sent by the terminal device according to target uplink pre-coding information, wherein the target uplink pre-coding information is determined by the terminal device according to the target downlink resource and a preset corresponding relationship, and the preset corresponding relationship is a corresponding relationship between downlink resources and uplink pre-coding information;

10 wherein the target uplink pre-coding information is used for indicating a target uplink wideband pre-coding matrix; or, the target uplink pre-coding information is used for indicating a target uplink sounding signal, and the target uplink sounding signal is used for the terminal device to determine a target uplink wideband pre-coding matrix or a target uplink beam.

10. A terminal device, comprising:

15 a processing module, used for determining a target downlink resource for transmitting a target downlink signal among a plurality of downlink resources;

wherein the processing module is further used for determining target uplink pre-coding information according to the target downlink resource and a preset corresponding relationship, wherein the preset corresponding relationship is a corresponding relationship between downlink
20 resources and uplink pre-coding information;

a transceiving module, used for transmitting an uplink signal according to the target uplink pre-coding information;

wherein the target uplink pre-coding information is used for indicating a target uplink wideband pre-coding matrix; or, the target uplink pre-coding information is used for indicating
25 a target uplink sounding signal, and the target uplink sounding signal is used for the terminal device to determine a target uplink wideband pre-coding matrix or a target uplink beam.

11. The terminal device according to claim 10, wherein the target uplink pre-coding information is used for indicating the target uplink wideband pre-coding matrix;

the processing module is further used for performing a wideband pre-coding processing on
30 the uplink signal according to the target uplink wideband pre-coding matrix to obtain a pre-coded uplink signal;

the transceiving module is specifically used for transmitting the pre-coded uplink signal.

12. The terminal device according to claim 10, wherein the target uplink pre-coding information is used for indicating the target uplink beam;

5 wherein the processing module is further used for performing a beamforming processing on the uplink signal according to the target uplink beam to obtain a beamformed uplink signal;

the transceiving module is specifically used for transmitting the beamformed uplink signal.

13. The terminal device according to claim 10, wherein the target uplink pre-coding information is used for indicating the target uplink sounding signal;

10 wherein the processing module is further used for determining a beam used when transmitting the target uplink sounding signal as the target uplink beam; and

performing a beamforming processing on the uplink signal according to the target uplink beam to obtain a beamformed uplink signal;

the transceiving module is specifically used for transmitting the beamformed uplink signal.

15 14. The terminal device according to claim 10, wherein the target uplink pre-coding information is used for indicating the target uplink sounding signal;

wherein before the processing module determines the target downlink resource for transmitting the target downlink signal among the plurality of downlink resources, the transceiving module is further used for:

20 sending a plurality of uplink sounding signals to a network device, wherein the plurality of uplink sounding signals comprise the target uplink sounding signal, and the plurality of uplink sounding signals have a corresponding relationship with the plurality of downlink resources.

15. The terminal device according to any one of claims 10-14, wherein the transceiving module is further used for:

25 receiving resource configuration information sent by a network device, wherein the resource configuration information is used for indicating the target downlink resource;

the processing module is specifically used for determining the target downlink resource according to the resource configuration information; or,

30 the processing module is specifically used for determining a downlink resource where the target downlink signal is detected among the plurality of downlink resources as the target downlink resource.

16. The terminal device according to any one of claims 10-15, wherein the target downlink signal is one of following signals: a downlink control channel, a downlink random access response signal, a downlink data channel, and a downlink reference signal.

17. The terminal device according to any one of claims 10-16, wherein each downlink resource is a time domain resource; or, each downlink resource is a frequency domain resource, or, each downlink resource is a code resource.

18. A network device, comprising:

a sending module, used for sending a target downlink signal to a terminal device on a target downlink resource among a plurality of downlink resources;

10 a receiving module, used for receiving an uplink signal sent by the terminal device according to target uplink pre-coding information, wherein the target uplink pre-coding information is determined by the terminal device according to the target downlink resource and a preset corresponding relationship, and the preset corresponding relationship is a corresponding relationship between downlink resources and uplink pre-coding information;

15 wherein the target uplink pre-coding information is used for indicating a target uplink wideband pre-coding matrix; or, the target uplink pre-coding information is used for indicating a target uplink sounding signal, and the target uplink sounding signal is used for the terminal device to determine a target uplink wideband pre-coding matrix or a target uplink beam.