

WHAT IS CLAIMED IS:

1. A method for receiving downlink data, comprising:

~~receiving~~~~determining~~, by a terminal, control resource set (CORESET) configuration information, wherein the CORESET configuration information comprises identification information of an antenna panel using a CORESET for physical downlink control channel (PDCCH) transmission;

receiving, by the terminal, a first downlink control information (DCI) carried by a first PDCCH sent by a base station through a first antenna panel of a plurality of antenna panels, wherein the first DCI is configured to schedule downlink data transmitted by the base station to the terminal;

in response to determining that the terminal cannot determine a target receiving beam for receiving the downlink data according to the first DCI, determining, by the terminal, a default receiving beam, wherein the default receiving beam is a receiving beam used by the terminal for receiving a second PDCCH through the first antenna panel, wherein the second PDCCH is a PDCCH received in a latest scheduling unit transmitted through the first antenna panel, using a CORESET with a smallest number in CORESETs, wherein the terminal determines the first antenna panel used by the base station for transmitting the first PDCCH based on the CORESET configuration information, and determines the first antenna panel as the antenna panel used by the base station for transmitting the downlink data~~the first and second PDCCHs are transmitted by the CORESETs through the first antenna panel~~; and

receiving, by the terminal, the downlink data using the default receiving beam.

~~2. The method of claim 1, wherein determining the default receiving beam by the terminal comprises:~~

~~determining, by the terminal, the first antenna panel as an antenna panel used by the base station for transmitting the downlink data; and~~

~~determining, by the terminal, the default receiving beam according to the first antenna panel.~~

~~32. The method of claim 21, wherein determining, by the terminal, the first antenna panel as the antenna panel used by the base station for transmitting the downlink data based on the CORESET configuration information comprises:~~

determining, by the terminal, a target CORESET used for the first PDCCH; and

determining, by the terminal, an antenna panel corresponding to the target CORESET as the

first antenna panel used by the base station for transmitting the first PDCCH, according to the CORESET configuration information.

~~4. The method of claim 1, wherein an antenna panel indication information is carried in the first DCI, wherein the antenna panel indication information is configured to indicate a second antenna panel used by the base station for transmitting the downlink data.~~

~~53. The method of claim 1, further comprising:
determining, by the terminal, wherein a receiving beam used for receiving the second PDCCH is as the default-receiving beam for receiving the first PDCCH.~~

~~64. A method for transmitting downlink data, comprising:
transmitting, by a base station, control resource set (CORESET) configuration information—, wherein the CORESET configuration information comprises identification information of an antenna panel using a CORESET for physical downlink control channel (PDCCH) transmission related to a plurality of antenna panels;~~

~~transmitting, by the base station, a first physical downlink control channel (PDCCH) to a terminal through a first antenna panel of the a plurality of antenna panels, the first PDCCH carrying a first DCI, the first DCI being configured to schedule downlink data transmitted by the base station to the terminal; and~~

~~transmitting, by the base station, downlink data to the terminal through the first antenna panel, so that the terminal receives the downlink data by using a default receiving beam, wherein the default receiving beam is a receiving beam used by the terminal for receiving a second PDCCH through the first antenna panel, wherein the second PDCCH is a PDCCH received in a latest scheduling unit transmitted through the first antenna panel, using a CORESET with a smallest number in CORESETs, wherein the terminal determines the first antenna panel used by the base station for transmitting the first PDCCH based on the CORESET configuration information, and determines the first antenna panel as the antenna panel used by the base station for transmitting the downlink data the first and second PDCCHs are transmitted by the CORESETs through the first antenna panel.~~

~~75. The method of claim 46, further comprising:
transmitting, by the base station, the CORESET configuration information to the terminal, wherein the CORESET configuration information comprises identification information of an antenna panel using a CORESET for PDCCH-DCI transmission, so that the terminal determines~~

the first antenna panel used by the base station for transmitting the first PDCCH according to the CORESET configuration information.

6. A device for receiving downlink data, applied to a terminal, comprising:

a control information receiving module, configured to receive a first downlink control information (DCI) carried by a first PDCCH sent by a base station through a first antenna panel of in a plurality of antenna panels, wherein the first DCI is configured to schedule downlink data transmitted by the base station to the terminal; wherein the terminal receives control resource set (CORESET) configuration information transmitted by the base station, wherein the CORESET configuration information comprises identification information of an antenna panel using a CORESET for physical downlink control channel (PDCCH) transmission

a receiving beam selecting module, configured to determine a default receiving beam in response to determining that the terminal cannot determine a target receiving beam for receiving the downlink data according to the first DCI, wherein the default receiving beam is a receiving beam used by the terminal for receiving a second PDCCH through the first antenna panel, wherein the second PDCCH is a PDCCH received in a latest scheduling unit transmitted through the first antenna panel, using a CORESET with a smallest number in CORESETs, wherein the terminal determines the first antenna panel used by the base station for transmitting the first PDCCH based on the CORESET configuration information, and determines the first antenna panel as the antenna panel used by the base station for transmitting the downlink data; and

a downlink data receiving module, configured to receive the downlink data using the default receiving beam.

7. The device of claim 6, further comprising:

an antenna panel determining unit, configured to:

determine, by the terminal, a target CORESET used for the first PDCCH; and

determine, by the terminal, an antenna panel corresponding to the target CORESET as the first antenna panel used by the base station for transmitting the first PDCCH, according to the CORESET configuration information.

8. The device of claim 6, wherein a receiving beam used for receiving the second PDCCH is the receiving beam for receiving the first PDCCH.

9. A device for transmitting downlink data, applied to a base station, comprising:

a control information transmitting module, configured to transmit control resource set (CORESET) configuration information, wherein the CORESET configuration information comprises identification information of an antenna panel using a CORESET for physical downlink control channel (PDCCH) transmission;

5 a control information transmitting module, configured to transmit a first physical downlink control channel (PDCCH) to a terminal through a first antenna panel of a plurality of antenna panels, the first PDCCH carrying a first DCI, the first DCI being configured to schedule downlink data transmitted by a base station to the terminal; and

10 a downlink data transmitting module, configured to transmit downlink data to the terminal through the first antenna panel, so that the terminal receives the downlink data by using a default receiving beam, wherein the default receiving beam is a receiving beam used by the terminal for receiving a second PDCCH through the first antenna panel, wherein the second PDCCH is a PDCCH received in a latest scheduling unit transmitted through the first antenna panel, using a CORESET with a smallest number in CORESETs, wherein the terminal determines the first
15 antenna panel used by the base station for transmitting the first PDCCH based on the CORESET configuration information, and determines the first antenna panel as the antenna panel used by the base station for transmitting the downlink data.

10. The device of claim 9, wherein the CORESET configuration information comprises identification information of an antenna panel using a CORESET for DCI transmission, so that the
20 terminal determines the first antenna panel used by the base station for transmitting the first PDCCH according to the CORESET configuration information.

~~8. The method of claim 6, wherein antenna panel indication information is carried in the first DCI, and the antenna panel indication information is configured to indicate a second antenna panel used by the base station for transmitting the downlink data.~~

25 911. A device for receiving downlink data, applied to a terminal, comprising:

a processor; and

a memory, configured to store instructions executable by the processor,

wherein the processor is configured to:

30 receive ~~determine~~ control resource set (CORESET) configuration information, wherein the CORESET configuration information comprises identification information of an antenna panel using a CORESET for physical downlink control channel (PDCCH) transmission;

receive a first downlink control information (DCI) carried by a first PDCCH sent by a base station through a first antenna panel of a plurality of antenna panels, wherein the first DCI is configured to schedule downlink data transmitted by the base station to a terminal;

in response to determining that the terminal cannot determine a target receiving beam for receiving the downlink data according to the first DCI, determine a default receiving beam, wherein the default receiving beam is a receiving beam used by the terminal for receiving a second PDCCH through the first antenna panel, wherein the second PDCCH is a PDCCH received in a latest scheduling unit transmitted through the first antenna panel, using a CORESET with a smallest number in CORESETs, wherein the terminal determines the first antenna panel used by the base station for transmitting the first PDCCH based on the CORESET configuration information, and determines the first antenna panel as the antenna panel used by the base station for transmitting the downlink data~~the first and second PDCCHs are transmitted by the CORESETs through the first antenna panel;~~ and

receive the downlink data using the default receiving beam.

~~1012.~~ A device for transmitting downlink data, applied to a base station, comprising:

a processor; and

a memory, configured to store instructions executable by the processor,

wherein the processor is configured to:

transmit determine-control resource set (CORESET) configuration information, wherein the CORESET configuration information comprises identification information of an antenna panel using a CORESET for physical downlink control channel (PDCCH) transmission~~related to a plurality of antenna panels;~~

transmit a first physical downlink control channel (PDCCH) to a terminal through a first antenna panel of ~~the~~ a plurality of antenna panels, the first PDCCH carrying a first DCI, the first DCI being configured to schedule downlink data transmitted by a base station to the terminal; and

transmit downlink data to the terminal through the first antenna panel, so that the terminal receives the downlink data by using a default receiving beam, wherein the default receiving beam is a receiving beam used by the terminal for receiving a second PDCCH through the first antenna panel, wherein the second PDCCH is a PDCCH received in a latest scheduling unit transmitted through the first antenna panel, using a CORESET with a smallest number in CORESETs, wherein the terminal determines the first antenna panel used by the base station for transmitting the first

PDCCH based on the CORESET configuration information, and determines the first antenna panel as the antenna panel used by the base station for transmitting the downlink data; the first and second PDCCHs are transmitted by the CORESETs through the first antenna panel.

- 5 13. A non-transitory computer readable storage medium, having computer programs stored thereon, wherein the computer programs are configured to implement steps of the method according to any of claims 1 to 3, or implement steps of the method according to any of claims 4 to 5, when being executed by a processor.