

CLAIMS

5 1. A method for transmitting data, comprising:

determining, by a terminal device, that a preset condition is met according to at least one of a present network condition or a service requirement of the terminal device;

10 determining, by the terminal device, an available resource for uplink transmission of the terminal device according to pre-stored first configuration information, the first configuration information indicating the available resource for uplink transmission of the terminal device; and

transmitting, by the terminal device, uplink data via the determined available resource for uplink transmission of the terminal device;

wherein the method further comprises:

15 determining, by the terminal device according to pre-stored second configuration information corresponding to the first configuration information, a resource for Physical Downlink Control Channel (PDCCH) detection by the terminal device, the second configuration information indicating the resource for PDCCH detection by the terminal device; and

20 detecting, by the terminal device, the PDCCH via the determined resource for PDCCH detection by the terminal device;

wherein the second configuration information comprises configuration information of at least one downlink beam, configuration information of each downlink beam comprises information about a time-domain resource for detecting a search space
25 of the PDCCH on the downlink beam, information about a frequency-domain resource for detecting the search space of the PDCCH on the downlink beam and information about a format for detecting the search space of the PDCCH on the downlink beam.

2. The method of claim 1, wherein determining, by the terminal device, that the preset
30 condition is met according to at least one of the present network condition or the service requirement of the terminal device comprises:

determining, by the terminal device, that the preset condition is met according to at least one of signal quality of a downlink beam corresponding to the terminal device or interference to the downlink beam.

3. The method of claim 1 or 2, wherein the first configuration information comprises configuration information of at least one uplink beam, configuration information of each uplink beam indicates a resource for uplink transmission by the terminal device on the uplink beam, and determining, by the terminal device, the available resource for uplink transmission of the terminal device according to the pre-stored first configuration information comprises:

determining, by the terminal device, configuration information of a first target beam for uplink transmission of the terminal device within the configuration information of the at least one uplink beam; and

determining, by the terminal device, a resource indicated by the configuration information of the first target beam as the available resource for uplink transmission of the terminal device; and

transmitting, by the terminal device, the uplink data via the determined available resource for uplink transmission of the terminal device comprises:

performing uplink transmission on the available resource indicated by the configuration information of the first target beam using the first target beam.

4. The method of claim 3, wherein the configuration information of each uplink beam comprises at least one of:

information about a resource for sending a Physical Uplink Control Channel (PUCCH) on the uplink beam, information about a resource for sending a Sounding Reference Signal (SRS) on the uplink beam, information about a resource for sending a Random Access Channel (RACH) on the uplink beam, or information about a resource for sending a first signal on the uplink beam, the first signal being a dedicated signal for sending indication information.

5. The method of claim 4, wherein the information about the resource for sending the PUCCH on the uplink beam comprises at least one of: information about a time-domain resource for sending the PUCCH on the uplink beam or information about a frequency-domain resource for sending the PUCCH on the uplink beam;

the information about the resource for sending of the SRS on the uplink beam comprises at least one of:

information about a time-domain resource for sending the SRS on the uplink beam or information about a frequency-domain resource for sending the SRS on the uplink beam; and

the information about the resource for sending the first signal on the beam
5 comprises at least one of:

information about a time-domain resource for sending the first signal on the uplink beam or information about a frequency-domain resource for sending the first signal on the uplink beam.

10 6. The method of claim 4, wherein the information about the resource for sending the RACH on the beam comprises at least one of:

information about a time-domain resource for sending the RACH on the uplink beam or information about a frequency-domain resource for sending the RACH on the uplink beam.

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7. The method of any one of claims 1-6, wherein the configuration information of each downlink beam indicates a resource for PDCCH detection by the terminal device on the downlink beam, and determining, by the terminal device, the resource for PDCCH detection by the terminal device according to the pre-stored second configuration
20 information comprises:

determining, by the terminal device, configuration information of a second target beam for PDCCH detection by the terminal device within the configuration information of the at least one downlink beam, the second target beam being different from the downlink beam corresponding to the terminal device; and

25 determining a resource indicated by the configuration information of the second target beam as the resource for PDCCH detection by the terminal device; and

detecting, by the terminal device, the PDCCH via the determined resource configured for PDCCH detection by the terminal device comprises:

30 detecting the PDCCH using the resource indicated by the configuration information of the second target beam.

8. A terminal device, comprising:

a determination unit, configured to determine that a preset condition is met

according to at least one of a present network condition or a service requirement of the terminal device,

5 wherein the determination unit is further configured to determine an available resource for uplink transmission of the terminal device according to pre-stored first configuration information, the first configuration information indicating the available resource for uplink transmission of the terminal device; and

a transceiver unit, configured to transmit uplink data via the determined available resource for uplink transmission of the terminal device;

10 wherein the determination unit is further configured to:

determine a resource for Physical Downlink Control Channel (PDCCH) detection by the terminal device according to pre-stored second configuration information, the second configuration information indicating the resource for PDCCH detection by the terminal device; and

15 the transceiver unit is further configured to detect the PDCCH via the determined resource for PDCCH detection by the terminal device;

20 wherein the second configuration information comprises configuration information of at least one downlink beam, configuration information of each downlink beam comprises information about a time-domain resource for detecting a search space of the PDCCH on the downlink beam, information about a frequency-domain resource for detecting the search space of the PDCCH on the downlink beam and information about a format for detecting the search space of the PDCCH on the downlink beam.

25 9. The terminal device of claim 8, wherein the determination unit is specifically configured to:

determine that the preset condition is met according to at least one of signal quality of a downlink beam corresponding to the terminal device or interference to the downlink beam.

30 10. The terminal device of claim 8 or 9, wherein the first configuration information comprises configuration information of at least one uplink beam, configuration information of each uplink beam indicates a resource for uplink transmission by the terminal device on the uplink beam, and the determination unit is specifically

configured to:

determine configuration information of a first target beam for uplink transmission of the terminal device within the configuration information of the at least one uplink beam; and

5 determine a resource indicated by the configuration information of the first target beam as the available resource for uplink transmission of the terminal device; and

the transceiver unit is further configured to:

10 perform uplink transmission on the available resource indicated by the configuration information of the first target beam using the first target beam.

11. The terminal device of claim 10, wherein the configuration information of each uplink beam comprises at least one of:

15 information about a resource for sending a Physical Uplink Control Channel (PUCCH) on the uplink beam, information about a resource for sending a Sounding Reference Signal (SRS) on the uplink beam, information about a resource for sending a Random Access Channel (RACH) on the uplink beam, or information about a resource for sending a first signal on the uplink beam, the first signal being a dedicated signal for sending indication information.

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12. The terminal device of claim 11, wherein the information about the resource for sending the PUCCH on the uplink beam comprises at least one of: information about a time-domain resource for sending the PUCCH on the uplink beam or information about a frequency-domain resource for sending the PUCCH on the uplink beam;

25 the information about the resource for sending of the SRS on the uplink beam comprises at least one of:

information about a time-domain resource for sending the SRS on the uplink beam or information about a frequency-domain resource for sending the SRS on the uplink beam; and

30 the information about the resource for sending the first signal on the beam comprises at least one of:

information about a time-domain resource for sending the first signal on the uplink beam or information about a frequency-domain resource for sending the first

signal on the uplink beam.

13. The terminal device of claim 11, wherein the information about the resource for sending the RACH on the beam comprises at least one of:

5 information about a time-domain resource for sending the RACH on the uplink beam or information about a frequency-domain resource for sending the RACH on the uplink beam.

10 14. The terminal device of any one of claims 8-13, wherein the configuration information of each downlink beam indicates a resource for PDCCH detection by the terminal device on the downlink beam, and the determination unit is specifically configured to:

15 determine configuration information of a second target beam for PDCCH detection by the terminal device within the configuration information of the at least one downlink beam, the second target beam being different from the downlink beam corresponding to the terminal device, and

 determine a resource indicated by the configuration information of the second target beam as the resource for PDCCH detection by the terminal device; and

20 the transceiver unit is specifically configured to detect the PDCCH using the resource indicated by the configuration information of the second target beam.

15. The terminal device of claim 14, wherein the downlink beam corresponding to the terminal device is a primary beam in downlink beams, and the second target beam is a secondary beam in the downlink beams.

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16. A network device, comprising:

30 a receiving unit, configured to receive indication information or uplink data sent by a terminal device according to pre-stored first configuration information, the first configuration information indicating an available resource for uplink transmission of the terminal device and the indication information or the uplink data being configured to indicate that the terminal device uses the first configuration information; and

 a sending unit, configured to send a Physical Downlink Control Channel (PDCCH) using second configuration information corresponding to the first

configuration information according to the indication information or the uplink data, the second configuration information indicating a resource for PDCCH detection by the terminal device;

5 wherein the second configuration information comprises configuration information of at least one downlink beam, and configuration information of each downlink beam comprises information about a time-domain resource for detecting a search space of the PDCCH on the downlink beam, information about a frequency-domain resource for detecting the search space of the PDCCH on the downlink beam and information about a format for detecting the search space of the PDCCH on the
10 downlink beam.