

What is claimed is:

1. A method for uplink data transmission, comprising:

receiving subset constraint indication information of a sounding reference signal (SRS) resource sent by a network device, and determining at least one available SRS resource subset according to the subset constraint indication information;

determining a length of an SRS resource indicator (SRI) according to a quantity of the at least one available SRS resource subset ~~indicated by the subset constraint indication information~~, wherein each SRS resource subset in the at least one available SRS resource subset is one SRS resource combination, and the one SRS resource combination comprises at least one SRS resource;

determining a target SRI from downlink control information (DCI) according to the length of the SRI;

determining a target SRS resource subset corresponding to the target SRI in the at least one available SRS resource subset; and

determining a transmission parameter used for uplink data transmission according to the target SRS resource subset,

wherein the method further comprises:

determining a corresponding relationship between a value of the SRI and the at least one available SRS resource subset according to the subset constraint indication information; and

the determining the target SRS resource subset corresponding to the target SRI in the at least one available SRS resource subset, comprises:

determining the target SRS resource subset corresponding to the target SRI from the at least one available SRS resource subset according to the corresponding relationship between the value of the SRI and the at least one available SRS resource subset.

2. The method according to claim 1, wherein the determining the length of the SRI according to the quantity of the at least one available SRS resource subset comprises:

determining that the length of the SRI is equal to $\lceil \log_2 K \rceil$, wherein $\lceil \cdot \rceil$ represents upward rounding and K is equal to the quantity of the at least one available SRS resource subset.

3. The method according to claim 1, wherein the transmission parameter used for the uplink data transmission comprises at least one of: a precoding matrix, a quantity of transmission layers, a quantity of antenna ports, a transmission beam, a power control parameter, or a panel.

4. The method according to claim 31, wherein the determining the transmission parameter used for the uplink data transmission according to the target SRS resource subset comprises:

determining a total quantity of antenna ports of the target SRS resource subset or a quantity of SRS resources contained in the target SRS resource subset as a quantity of transmission layers of the uplink data transmission.

5. The method according to claim 3, wherein the determining the transmission parameter used for the uplink data transmission according to the target SRS resource subset comprises:

determining a precoding matrix used for transmitting a SRS in the target SRS resource subset as a precoding matrix used for the uplink data transmission.

6. The method according to claim 3, wherein the determining the transmission parameter used for the uplink data transmission according to the target SRS resource subset comprises:

determining a beam transmitting a SRS in the target SRS resource subset as a beam used for the uplink data transmission.

7. The method according to claim 13, wherein ~~the transmission parameter used for the uplink data transmission comprises a panel; and~~ the determining the transmission parameter used for the uplink data transmission according to the target SRS resource subset comprises:

determining a panel that transmits a SRS in the target SRS resource subset as ~~the a~~ panel used for the uplink data transmission.

8. A terminal device, comprising ~~a transceiver and a processor, wherein:~~
~~the transceiver is a receiving unit,~~ configured to receive subset constraint indication information of a sounding reference signal (SRS) resource sent by a network device, and determine at least one available SRS resource subset according to the subset constraint indication information;

~~the processor a determination unit,~~ is configured to determine a length of an SRS resource indicator (SRI) according to a quantity of the at least one available SRS resource subset indicated by the subset constraint indication information, wherein each SRS resource subset in the at least one available SRS resource subset is one SRS resource combination, and the one

SRS resource combination comprises at least one SRS resource; wherein the ~~processor~~ determination unit is further configured to determine a target SRI from downlink control information (DCI) according to the length of the SRI;

the ~~processor~~ determination unit is further configured to determine a target SRS resource subset corresponding to the target SRI in the at least one available SRS resource subset; and

the ~~determination unit~~ processor is further configured to determine a transmission parameter used for uplink data transmission according to the target SRS resource subset,

wherein the ~~determination unit~~ processor is specifically configured to:

determine a corresponding relationship between a value of the SRI and the at least one available SRS resource subset according to the subset constraint indication information; and

determine the target SRS resource subset corresponding to the target SRI from the at least one available SRS resource subset according to the corresponding relationship between the value of the SRI and the at least one available SRS resource subset.

9. The terminal device according to claim 8, wherein the ~~determination unit~~ processor is specifically configured to:

determine that the length of the SRI is equal to $\lceil \log_2 K \rceil$, wherein $\lceil \cdot \rceil$ represents upward rounding and K is equal to the quantity of the at least one available SRS resource subset.

10. The terminal device according to claim 8, wherein the transmission parameter used for the uplink data transmission comprises at least one of: a precoding matrix, a quantity of transmission layers, a quantity of antenna ports, a transmission beam, a power control parameter, or a panel.

11. The terminal device according to claim 10, wherein the ~~determination unit~~ processor is specifically configured to:

determine a total quantity of antenna ports of the target SRS resource subset or a quantity of SRS resources contained in the target SRS resource subset as a quantity of transmission layers of the uplink data transmission.

12. The terminal device according to claim 10, wherein the ~~determination unit~~ processor is specifically configured to:

determine a precoding matrix used for transmitting a SRS in the target SRS resource subset as a precoding matrix used for the uplink data transmission.

13. The terminal device according to claim 10, wherein the determination unit~~processor~~ is specifically configured to:

determine a beam transmitting a SRS in the target SRS resource subset as a beam used for the uplink data transmission.

5 14. The terminal device according to claim ~~8~~10, wherein ~~the transmission parameter used for the uplink data transmission comprises a panel; and~~ the determination unit~~processor~~ is specifically configured to:

determine a panel that transmits a SRS in the target SRS resource subset as ~~the a~~ panel used for the uplink data transmission.