

CLAIMS

1. A method for determining a codebook subset, comprising:
 receiving, by a user equipment (UE), first indication information from a network device,
 5 wherein the first indication information is used to indicate a first sounding reference signal (SRS) resource in an SRS resource set; and
 receiving, by the UE, first configuration information from the network device, wherein the first configuration information is used to configure codebook subsets; and
 determining, by the UE, a codebook subset for uplink transmission based on the first
 10 indication information and the first configuration information.

2. The method of claim 1, further comprising:
 receiving, by the UE, second configuration information from the network device,
 wherein the second configuration information is used to configure the SRS resource set,
 15 and the SRS resource set comprises one or a plurality of SRS resources; and
 wherein when the SRS resource set comprises the plurality of SRS resources, each of the plurality of SRS resources is configured to have a number of antenna ports as same as or different from that of one another.

- 20 3. The method of claim 2, wherein the SRS resource set is configured to support full power transmission.

4. The method according to claim 2 or 3, wherein usage of the SRS resource set is set to 'codebook'.
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5. The method according to any one of claims 2 to 4, wherein determining, by the UE, the codebook subset for uplink transmission based on the first indication information and the first configuration information, comprising:
 determining, by the UE, the first SRS resource in the SRS resource set based on the first
 30 indication information and the second configuration information;
 when the first SRS resource has two antenna ports, determining, by the UE, that the codebook subset for uplink transmission is 'nonCoherent' if the first configuration information is set to 'partialAndNonCoherent'.

- 35 6. The method according to any one of claims 2 to 4, wherein determining, by the UE, the codebook subset for uplink transmission based on the first indication information and the first configuration information, comprising:
 determining, by the UE, the first SRS resource in the SRS resource set based on the first indication information and the second configuration information;
 40 when the first SRS resource has two antenna ports, determining, by the UE, that the codebook subset for uplink transmission is 'fullyAndPartialAndNonCoherent' if the first configuration information is set to 'partialAndNonCoherent'.

7. The method according to claim 5 or 6, wherein when a maximum number of antenna ports of
 45 all SRS resources in the SRS resource set is 2, the UE does not expect the network device to set the first parameter to 'partialAndNonCoherent'.

8. The method according to any one of claims 5 to 7, further comprising:

sending, by the UE, second indication information to the network device, wherein the second indication information is used to indicate that when 2 antenna ports are used for uplink transmission, the UE supports the codebook subset for uplink transmission.

5 9. The method according to claim 8, wherein the second indication information is carried in a capability report of the UE.

10 10. The method according to any one of claims 2 to 4, wherein the first configuration information includes a plurality of configuration parameters, and different configuration parameters in the plurality of configuration parameters are used to determine codebook subset configurations corresponding to different antenna ports.

15 11. The method according to claim 10, wherein the plurality of configuration parameters include a first configuration parameter and a second configuration parameter, the first configuration parameter is used to determine a first codebook subset configuration corresponding to 4 antenna ports, and the second configuration parameter is used to determine a second codebook subset configuration corresponding to 2 antenna ports.

20 12. The method according to claim 11, wherein determining, by the UE, the codebook subset for uplink transmission based on the first indication information and the first configuration information, comprising:

determining, by the UE, a first SRS resource in the SRS resource set based on the first indication information and the second configuration information; and

25 when the first SRS resource has 2 antenna ports, determining, by the UE, the codebook subset for uplink transmission based on the second codebook subset configuration; or,

when the first SRS resource has 4 antenna ports, determining, by the UE, the codebook subset for uplink transmission based on the first codebook subset configuration.

30 13. The method according to any one of claims 1 to 12, further comprising:
receiving, by the UE, downlink control information (DCI), wherein the DCI is used to schedule the uplink transmission, the DCI includes a first bit field and a second bit field; the first bit field is used to carry third indication information, the third indication information is used to indicate information of a precoder and a transmission rank, the second bit field is used to carry the first indication information, and the first indication information is used to indicate the first SRS resource in the SRS resource set;

wherein a size of the first bit field is determined based on at least one of the following:

40 a value of the second bit field;

a number of ports of the first SRS resource, where the first SRS resource is indicated by the first indication information in the second bit field; or

a target codebook subset configuration, wherein the target codebook subset configuration is a codebook subset configuration corresponding to the number of ports of the first SRS resource.

45 14. The method according to any one of claims 1 to 13, wherein the first bit field is a transmit precoding matrix indicator (TPMI) and rank field, and the second bit field is an SRS resource indicator (SRI) field.

15. A device for determining a codebook subset, applied to a user equipment (UE), and comprising:

a receiving unit, configured to receive first indication information from a network device and receive first configuration information from the network device, wherein the first indication information is used to indicate a first SRS resource in an SRS resource set; and the first configuration information is used to configure codebook subsets; and

a determination unit, configured to determine a codebook subset for uplink transmission based on the first indication information and the first configuration information.

16. The device according to claim 15, wherein the receiving unit is further configured to receive second configuration information from the network device, the second configuration information is used to configure the SRS resource set, and the SRS resource set comprises one or a plurality of SRS resources;

when the SRS resource set includes the plurality of SRS resources, each of the plurality of SRS resources is configured to have a number of antenna ports as same as or different from that of one another.

17. The device of claim 16, wherein the SRS resource set is configured to support full power transmission.

18. The device according to claim 16 or 17, wherein usage of the SRS resource set is set to codebook.

19. The device according to any one of claims 16 to 18, wherein the determination unit is configured to determine the first SRS resource in the SRS resource set based on the first indication information and the second configuration information; and

wherein when the first SRS resource has two antenna ports, the determination unit is configured to determine that the codebook subset used for uplink transmission is 'nonCoherent' if the first configuration information is set to 'partialAndNonCoherent'.

20. The device according to any one of claims 16 to 18, wherein the determination unit is configured to determine the first SRS resource in the SRS resource set based on the first indication information and the second configuration information; and

wherein when the first SRS resource has two antenna ports, the determination unit is configured to determine that the codebook subset used for uplink transmission is 'fullyAndPartialAndNonCoherent' if the first configuration information is set to 'partialAndNonCoherent'.