CLAIMS

1. A data transmission method, comprising:

configuring, by a network device, a plurality of different frequency domain resources, and configuring, by the network device, a same time domain resource for the plurality of different frequency domain resources; and

sending, by the network device, a same downlink control signaling on a plurality of beams, using the same time domain resource with the plurality of different frequency domain resources;

wherein the plurality of different frequency domain resources belong to a same control resource set (CORESET) or a plurality of CORESETs having different frequency domain resources, wherein the plurality of different frequency domain resources in the same CORESET or the plurality of CORESETs comprise one or more same configuration parameters, the configuration parameters comprise one or more of a number of time domain symbols, a cycle of a search space, a slot offset of the search space, a starting symbol position monitored in a slot of the search space.

2. The method of claim 1, wherein, the plurality of different frequency domain resources comprise a plurality of different resource block sets obtained by dividing frequency domain resources corresponding to the same CORESET.

3. The method of claim 1, wherein, the plurality of different frequency domain resources have a specific offset with respect to frequency domain resources corresponding to a CORESET.

4. The method of claim 2 or 3, further comprising:

configuring, by the network device, a first CORESET pool index for the CORESET, wherein the first CORESET pool index indicates that the plurality of beams are capable of being configured for the CORESET.

5. The method of claim 4, further comprising:

indicating, by the network device, transmission configuration indication (TCI) states of the plurality of beams based on a first radio resource control (RRC) signaling and a first media access control (MAC) signaling;

wherein, the first RRC signaling is configured to indicate a TCI state list of the CORESET, and the first MAC signaling is configured to activate one or more TCI states in the TCI state list.

6. The method of claim 1, wherein, the plurality of different frequency domain resources comprise frequency domain resources corresponding to a plurality of CORESETs with different second CORESET pool indexes and different frequency domain resources.

7. The method of claim 6, further comprising:

indicating, by the network device, TCI states of the plurality of beams based on a plurality of second radio resource control (RRC) signalings and one or more second MAC signalings;

wherein, the plurality of second RRC signalings are configured to respectively indicate TCI state lists of different CORESETs with different CORESET pool indexes; and

the one or more second MAC signalings are configured to activate TCI states, wherein a number of activated TCI states is less than or equal to a number of the plurality of different frequency domain resources.

8. The method of claim 1, further comprising:

sending, by the network device, first indication information to a terminal, wherein the first indication information is configured to instruct the terminal to receive the same downlink control signaling on the plurality of beams using the same time domain resource with the plurality of different frequency domain resources.

9. A data transmission method, comprising:

determining, by a terminal, a plurality of different frequency domain resources and a same time domain resource configured for the plurality of different frequency domain resources; and

receiving, by the terminal, a same downlink control signaling on a plurality of beams, using the same time domain resource with the plurality of different frequency domain resources;

wherein the plurality of different frequency domain resources belong to a same control resource set (CORESET) or a plurality of CORESETs having different frequency domain resources, wherein the plurality of different frequency domain resources in the same CORESET or the plurality of CORESETs comprise one or more same configuration parameters, the configuration parameters comprise one or more of a number of time domain symbols, a cycle of a search space, a slot offset of the search space, a starting symbol position monitored in a slot of the search space.

10. The method of claim 9, wherein, the plurality of different frequency domain resources comprise a plurality of different resource block sets obtained by dividing frequency domain resources corresponding to the same CORESET.

11. The method of claim 9, wherein, the plurality of different frequency domain resources comprise a specific offset with respect to frequency domain resources corresponding to a CORESET.

12. The method of claim 10, further comprising:

determining, by the terminal, a first CORESET pool index of the CORESET, wherein the first CORESET pool index indicates that the plurality of beams are capable of being configured for the CORESET.

13. The method of claim 10, further comprising:

receiving, by the terminal, transmission configuration indication (TCI) states of the plurality of beams based on a first radio resource control (RRC) signaling and a first media access control (MAC) signaling;

wherein, the first RRC signaling is configured to indicate a TCI state list of the CORESET, and the first MAC signaling is configured to activate one or more TCI states in the TCI state list.

14. The method of claim 9, wherein, the plurality of different frequency domain resources comprise frequency domain resources corresponding to a plurality of CORESETs with different second CORESET pool indexes and different frequency domain resources.

15. The method of claim 14, further comprising:

receiving, by the terminal, TCI states of the plurality of beams based on a plurality of second RRC signalings and one or more second MAC signalings;

wherein, the plurality of second RRC signalings are configured to respectively indicate TCI state lists of different CORESETs with different CORESET pool indexes; and

the one or more second MAC signalings are configured to activate TCI states, wherein a number of activated TCI states is less than or equal to a number of the frequency domain resources.

16. The method of claim 9, further comprising:

receiving, by the terminal, first indication information, wherein the first indication information is configured to instruct the terminal to receive the same downlink control signaling on the plurality of beams using the same time domain resource with the plurality of different frequency domain resources.

17. A data transmission device, comprising:

a processor; and

a memory configured to store instructions executable by the processor;

wherein the processor is configured to perform the data transmission method according to any of claims 1-8.

18. A data transmission device, comprising:

a processor; and

a memory configured to store instructions executable by the processor;

wherein the processor is configured to perform the data transmission method according to any of claims 9-16.