

What is claimed is:

~~1. A method for sidelink data transmission, comprising:~~

~~receiving Downlink Control Information (DCI);~~

~~determining a format of the DCI;~~

~~5 when the DCI is a DCI in a first format, the DCI is used for scheduling a first type of sidelink;~~

~~when the DCI is a DCI in a second format, the DCI is used for scheduling a second type of sidelink;~~

~~10 wherein configuration parameters of the first type of sidelink and the second type of sidelink are different; and~~

~~transmitting sidelink data transmission by using the scheduled sidelink.~~

~~2. The method according to claim 1, wherein—~~

~~when the DCI is the DCI in the first format, the DCI is scrambled by using a first Radio Network Temporary Identifier, RNTI; and~~

~~15 when the DCI is the DCI in the second format, the DCI is scrambled by using a second RNTI, wherein the second RNTI is different from the first RNTI.~~

~~3. The method according to claim 1 or 2, wherein,~~

~~the first type of sidelink is a sidelink supporting a Long Term Evolution, LTE, system, and the second type of sidelink is a sidelink supporting a New Radio, NR, system; or~~

~~20 the first type of sidelink is a sidelink supporting an NR system, and the second type of sidelink is a sidelink supporting a LTE system.~~

~~4. The method according to any one of claims 1 to 3, wherein the configuration parameters of the first type of sidelink and the second type of sidelink being different comprises at least one of following cases:~~

~~25 a maximum bandwidth supported by the first type of sidelink is different from a maximum bandwidth supported by the second type of sidelink;~~

~~a subcarrier spacing size supported by the first type of sidelink is different from a~~

subcarrier spacing size supported by the second type of sidelink;

a class of subcarrier spacing supported by the first type of sidelink is different from a class of subcarrier spacing supported by the second type of sidelink;

the configuration parameter of the first type of sidelink does not comprise a bandwidth part, and the configuration parameter of the second type of sidelink comprises a bandwidth part;

a carrier index of the first type of sidelink is different from a carrier index of the second type of sidelink;

the configuration parameter of the first type of sidelink does not comprise parameter information of a sidelink feedback channel, and the configuration parameter of the second type of sidelink comprises the parameter information of the sidelink feedback channel.

5. The method according to any one of claims 1 to 4, wherein

the DCI in the first format is carried by a carrier or a frequency band with a first frequency; and

the DCI in the second format is carried by a carrier or a frequency band with a second frequency.

6. The method according to claim 1, wherein the method further comprises that:

the DCI comprises an indication information field,

when the indication information field indicates a first parameter set, the first type of sidelink is scheduled to be used for transmitting sidelink data; and

when the indication information field indicates a second parameter set, the second type of sidelink is scheduled to be used for transmitting sidelink data.

7. The method according to claim 1, wherein the format of the DCI is determined according to a preset rule, the preset rule comprises that:

the DCI comprises an indication information field,

if the indication information field indicates a first parameter set, the DCI is determined to be in the first format; and

if the indication information field indicates a second parameter set, the DCI is determined

to be in the second format.

~~8. The method according to claim 1, wherein the format of the DCI is determined according to a preset rule, the preset rule comprises that:~~

~~the DCI comprises carrier indication information, and~~

~~the DCI is determined to be in the first format or in the second format according to the carrier indication information and a first corresponding relationship, wherein the first corresponding relationship is configured for indicating a corresponding relationship between the carrier indication information and a format of the DCI.~~

~~9. A terminal device, comprising:~~

~~a transceiving unit, configured to receive Downlink Control Information (DCI);~~

~~a determining unit, configured to determine a format of the DCI; when the DCI is a DCI in a first format, the DCI is used for scheduling a first type of sidelink; when the DCI is a DCI in a second format, the DCI is used for scheduling a second type of sidelink; wherein configuration parameters of the first type of sidelink and the second type of sidelink are different; and~~

~~the transceiving unit is further configured to perform sidelink data transmission by using the scheduled sidelink.~~

~~10. The terminal device according to claim 9, wherein~~

~~when the DCI is the DCI in the first format, the DCI is scrambled by using a first Radio Network Temporary Identifier, RNTI; and~~

~~when the DCI is the DCI in the second format, the DCI is scrambled by using a second RNTI, wherein the second RNTI is different from the first RNTI.~~

~~11. The terminal device according to claim 9 or 10, wherein,~~

~~the first type of sidelink is a sidelink supporting a Long Term Evolution, LTE, system, and the second type of sidelink is a sidelink supporting a New Radio, NR, system; or~~

~~the first type of sidelink is a sidelink supporting an NR system, and the second type of sidelink is a sidelink supporting a LTE system.~~

~~12. The terminal device according to any one of claims 9 to 11, wherein the configuration parameters of the first type of sidelink and the second type of sidelink being different comprises at least one of following cases:~~

~~a maximum bandwidth supported by the first type of sidelink is different from a maximum bandwidth supported by the second type of sidelink;~~

~~a subcarrier spacing size supported by the first type of sidelink is different from a subcarrier spacing size supported by the second type of sidelink;~~

~~a class of subcarrier spacing supported by the first type of sidelink is different from a class of subcarrier spacing supported by the second type of sidelink;~~

~~the configuration parameter of the first type of sidelink does not comprise a bandwidth part, and the configuration parameter of the second type of sidelink comprises a bandwidth part;~~

~~a carrier index of the first type of sidelink is different from a carrier index of the second type of sidelink;~~

~~the configuration parameter of the first type of sidelink does not comprise parameter information of a sidelink feedback channel, and the configuration parameter of the second type of sidelink comprises the parameter information of the sidelink feedback channel.~~

~~13. The terminal device according to any one of claims 9 to 12, wherein~~

~~the DCI in the first format is carried by a carrier or a frequency band with a first frequency; and~~

~~the DCI in the second format is carried by a carrier or a frequency band with a second frequency.~~

~~14. The terminal device according to claim 9, wherein the method further comprises that:~~

~~the DCI comprises an indication information field,~~

~~when the indication information field indicates a first parameter set, the first type of sidelink is scheduled to be used for transmitting sidelink data; and~~

~~when the indication information field indicates a second parameter set, the second type of sidelink is scheduled to be used for transmitting sidelink data.~~

~~15. The terminal device according to claim 9, wherein the format of the DCI is determined according to a preset rule, the preset rule comprises that:~~

~~the DCI comprises an indication information field,~~

~~if the indication information field indicates a first parameter set, the DCI is determined to be in the first format; and~~

~~if the indication information field indicates a second parameter set, the DCI is determined to be in the second format.~~

~~16. The terminal device according to claim 9, wherein the format of the DCI is determined according to a preset rule, the preset rule comprises that:~~

~~the DCI comprises carrier indication information, and~~

~~the DCI is determined to be in the first format or in the second format according to the carrier indication information and a first corresponding relationship, wherein the first corresponding relationship is configured for indicating a corresponding relationship between the carrier indication information and a format of the DCI.~~

~~17. A terminal device, comprising a processor and a memory, wherein the memory is configured to store a computer program and the processor is configured to call and run the computer program stored in the memory to execute the method according to any one of claims 1 to 8.~~

1. A method for sidelink data transmission, comprising:

receiving (S210) Downlink Control Information, DCI;

determining (S220) a format of the DCI;

when the DCI is a DCI in a first format, the DCI is used for scheduling a first type of sidelink;

when the DCI is a DCI in a second format, the DCI is used for scheduling a second type of sidelink;

wherein configuration parameters of the first type of sidelink and the second type of

sidelink are different; and

transmitting (S230) sidelink data by using the scheduled sidelink;

characterized in that the configuration parameters of the first type of sidelink and the second type of sidelink being different comprises:

5      a maximum bandwidth supported by the first type of sidelink is different from a maximum bandwidth supported by the second type of sidelink; and

the configuration parameter of the first type of sidelink does not comprise parameter information of a sidelink feedback channel, and the configuration parameter of the second type of sidelink comprises the parameter information of the sidelink feedback channel.

10      2. The method according to claim 1, wherein

when the DCI is the DCI in the first format, the DCI is scrambled by using a first Radio Network Temporary Identifier, RNTI; and

when the DCI is the DCI in the second format, the DCI is scrambled by using a second RNTI, wherein the second RNTI is different from the first RNTI.

15      3. The method according to claim 1 or 2, wherein,

the first type of sidelink is a sidelink supporting a Long Term Evolution, LTE, system, and the second type of sidelink is a sidelink supporting a New Radio, NR, system; or

the first type of sidelink is a sidelink supporting an NR system, and the second type of sidelink is a sidelink supporting a LTE system.

20      4. The method according to any one of claims 1 to 3, wherein the configuration parameters of the first type of sidelink and the second type of sidelink being different further comprises at least one of following cases:

a subcarrier spacing size supported by the first type of sidelink is different from a subcarrier spacing size supported by the second type of sidelink;

25      a class of subcarrier spacing supported by the first type of sidelink is different from a class of subcarrier spacing supported by the second type of sidelink;

the configuration parameter of the first type of sidelink does not comprise a bandwidth

part, and the configuration parameter of the second type of sidelink comprises a bandwidth part;

a carrier index of the first type of sidelink is different from a carrier index of the second type of sidelink.

5. The method according to any one of claims 1 to 4, wherein

the DCI in the first format is carried by a carrier or a frequency band with a first frequency; and

the DCI in the second format is carried by a carrier or a frequency band with a second frequency.

6. The method according to claim 1, wherein the method further comprises that:

the DCI comprises an indication information field,

when the indication information field indicates a first parameter set, the first type of sidelink is scheduled to be used for transmitting sidelink data; and

when the indication information field indicates a second parameter set, the second type of sidelink is scheduled to be used for transmitting sidelink data.

7. The method according to claim 1, wherein a preset rule comprises that:

the DCI comprises an indication information field,

if the indication information field indicates a first parameter set, the first type of sidelink is determined to be the target sidelink; and

if the indication information field indicates a second parameter set, the second type of sidelink is determined to be the target sidelink.

8. The method according to claim 1, wherein a preset rule comprises that:

the DCI comprises carrier indication information, and

the first type of sidelink or the second type of sidelink is determined to be the target sidelink according to the carrier indication information and a first corresponding relationship,

wherein the first corresponding relationship is configured for indicating a corresponding relationship between the carrier indication information and a type of the target sidelink.

9. A terminal device, the terminal device being configured to execute the method for

sidelink data transmission of any one of claims 1 to 8.

10. A method for sidelink data transmission, applied to a network device, comprising:

sending (S310) Downlink Control Information, DCI to a terminal device; wherein when the DCI is a DCI in a first format, the DCI is used for scheduling a first type of sidelink; when the DCI is a DCI in a second format, the DCI is used for scheduling a second type of sidelink; wherein configuration parameters of the first type of sidelink and the second type of sidelink are different, and the scheduled sidelink is used for the sidelink data transmission;

characterized in that the configuration parameters of the first type of sidelink and the second type of sidelink being different comprises:

a maximum bandwidth supported by the first type of sidelink is different from a maximum bandwidth supported by the second type of sidelink; and

the configuration parameter of the first type of sidelink does not comprise parameter information of a sidelink feedback channel, and the configuration parameter of the second type of sidelink comprises the parameter information of the sidelink feedback channel.

11. The method according to claim 10, wherein

when the DCI is the DCI in the first format, the DCI is scrambled by using a first Radio Network Temporary Identifier, RNTI; and

when the DCI is the DCI in the second format, the DCI is scrambled by using a second RNTI, wherein the second RNTI is different from the first RNTI.

12. The method according to claim 10 or 11, wherein,

the first type of sidelink is a sidelink supporting a Long Term Evolution, LTE, system, and the second type of sidelink is a sidelink supporting a New Radio, NR, system; or

the first type of sidelink is a sidelink supporting an NR system, and the second type of sidelink is a sidelink supporting a LTE system.

13. The method according to any one of claims 10 to 12, wherein the configuration parameters of the first type of sidelink and the second type of sidelink being different further comprises at least one of following cases:

a subcarrier spacing size supported by the first type of sidelink is different from a subcarrier spacing size supported by the second type of sidelink;

a class of subcarrier spacing supported by the first type of sidelink is different from a class of subcarrier spacing supported by the second type of sidelink;

5 the configuration parameter of the first type of sidelink does not comprise a bandwidth part, and the configuration parameter of the second type of sidelink comprises a bandwidth part;

a carrier index of the first type of sidelink is different from a carrier index of the second type of sidelink.

14. The method according to any one of claims 10 to 13, wherein

10 the DCI in the first format is carried by a carrier or a frequency band with a first frequency; and

the DCI in the second format is carried by a carrier or a frequency band with a second frequency.

15. The method according to claim 10, wherein the method further comprises that:

15 the DCI comprises an indication information field,

when the indication information field indicates a first parameter set, the first type of sidelink is scheduled to be used for transmitting sidelink data; and

when the indication information field indicates a second parameter set, the second type of sidelink is scheduled to be used for transmitting sidelink data.

20 16. The method according to claim 10, wherein a preset rule comprises that:

the DCI comprises an indication information field,

if the indication information field indicates a first parameter set, the first type of sidelink is determined to be the target sidelink; and

25 if the indication information field indicates a second parameter set, the second type of sidelink is determined to be the target sidelink.

17. The method according to claim 10, wherein a preset rule comprises that:

the DCI comprises carrier indication information, and

the first type of sidelink or the second type of sidelink is determined to be the target sidelink according to the carrier indication information and a first corresponding relationship, wherein the first corresponding relationship is configured for indicating a corresponding relationship between the carrier indication information and a type of the target sidelink.

- 5      18. A network device, the network device being configured to execute the method for sidelink data transmission of any one of claims 10 to 17.