Claims

1. A method for wireless communication, comprising:

transmitting a first control channel in a first period of time, wherein the first control channel carries scheduling information of a first data channel;

receiving or transmitting the first data channel in a second period of time according to the scheduling information of the first data channel; and

transmitting a second control channel in a frequency division multiplexing manner with the first data channel in part time of the second period of time, wherein a data channel scheduled by the second control channel does not comprise the first data channel, and a starting position of the part time is not earlier than an ending position of the first period of time;

wherein each of the first control channel and the second control channel is a physical downlink control channel (PUCCH), and each of the first data channel and the data channel scheduled by the second control channel is a physical downlink shared channel (PDSCH) or a Physical Uplink Shared Channel (PUSCH).

2. The method according to claim 1, wherein a starting position of the first period of time is earlier than a starting position of the second period of time, the first control channel between the starting position of the first period of time and the starting position of the second period of time, and a second data channel are frequency division multiplexed, and the second data channel is scheduled by a control channel before the first control channel.

3. The method according to claim 2, wherein the ending position of the first period of time is earlier than or equal to the starting position of the second period of time.

4. The method according to any one of claims 1-3, wherein a starting position of the second control channel in the second period of time is later than the starting position of the second period of time, or, an ending position of the second control channel in the second period of time is earlier than an ending position of the second period of time.

5. A method for wireless communication, comprising:

receiving, by a terminal device, scheduling information corresponding to the terminal device in scheduling information of a first data channel on a first control channel transmitted in a first period of time, wherein the first control channel is used for scheduling the first data channel, and the first data channel is transmitted in a second period of time; and

receiving or transmitting data corresponding to the terminal device in the first data channel

according to the scheduling information for the terminal device;

wherein the first data channel and a second control channel are frequency division multiplexed in part time of the second period of time, a data channel scheduled by the second control channel does not comprise the first data channel, and wherein a starting position of the part time is not earlier than an ending position of the first period of time;

wherein each of the first control channel and the second control channel is a physical downlink control channel (PUCCH), and each of the first data channel and the data channel scheduled by the second control channel is a physical downlink shared channel (PDSCH) or a Physical Uplink Shared Channel (PUSCH).

6. The method according to claim 5, wherein a starting position of the first period of time is earlier than a starting position of the second period of time, the first control channel between the starting position of the first period of time and the starting position of the second period of time, and a second data channel are frequency division multiplexed, and the second data channel is scheduled by a control channel before the first control channel.

7. The method according to claim 6, wherein the ending position of the first period of time is earlier than or equal to the starting position of the second period of time.

8. The method according to any one of claims 5-7, wherein a starting position of the second control channel in the second period of time is later than the starting position of the second period of time, or, an ending position of the second control channel in the second period of time is earlier than an ending position of the second period of time.

9. A network device, comprising a first transceiving unit and a second transceiving unit; wherein

the first transceiving unit is used for transmitting a first control channel in a first period of time, wherein the first control channel carries scheduling information of a first data channel;

the second transceiving unit is used for receiving or transmitting the first data channel in a second period of time according to the scheduling information of the first data channel;

the first transceiving unit is further used for transmitting a second control channel in a frequency division multiplexing manner with the first data channel in part time of the second period of time;

a data channel scheduled by the second control channel does not comprise the first data channel, wherein a starting position of the part time is not earlier than an ending position of the

first period of time;

wherein each of the first control channel and the second control channel is a physical downlink control channel (PUCCH), and each of the first data channel and the data channel scheduled by the second control channel is a physical downlink shared channel (PDSCH) or a Physical Uplink Shared Channel (PUSCH).

10. The network device according to claim 9, wherein a starting position of the first period of time is earlier than a starting position of the second period of time, the first control channel between the starting position of the first period of time and the starting position of the second period of time, and a second data channel are frequency division multiplexed, and the second data channel is scheduled by a control channel before the first control channel.

11. The network device according to claim 10, wherein the ending position of the first period of time is earlier than or equal to the starting position of the second period of time.

12. The network device according to any one of claims 9-11, wherein a starting position of the second control channel in the second period of time is later than the starting position of the second period of time, or, an ending position of the second control channel in the second period of time is earlier than an ending position of the second period of time.

13. The network device according to any one of claims 9-12, wherein the first transceiving unit is further used for:

transmitting indication information comprising information of a position of the second period of time relative to the first period of time or information of a length of the second period of time.

14. The network device according to claim 13, wherein the indication information is used for indicating a relative position of the starting position of the second period of time relative to the starting position of the first period of time, or for indicating a relative position of the starting position of the second period of time relative to the ending position of the first period of time;

or,

wherein the first transceiving unit is further used for:

transmitting the indication information, wherein the indication information comprises information of positions or lengths of transmission time corresponding to multiple data channels scheduled by multiple control channels, and the multiple control channels comprise the first control channel;

or,

wherein the first transceiving unit is further used for:

transmitting the indication information through a high-layer signaling or physical-layer control signaling.

15. A terminal device, comprising a first transceiving unit and a second transceiving unit; wherein

the first transceiving unit is used for receiving scheduling information corresponding to the terminal device in scheduling information of a first data channel on a first control channel transmitted in a first period of time, wherein the first control channel is used for scheduling the first data channel, and the first data channel is transmitted in a second period of time;

the second transceiving unit is used for receiving or transmitting data corresponding to the terminal device in the first data channel according to the scheduling information for the terminal device;

wherein the first data channel and a second control channel are frequency division multiplexed in part time of the second period of time, and a data channel scheduled by the second control channel does not comprise the first data channel, wherein a starting position of the part time is not earlier than an ending position of the first period of time;

wherein each of the first control channel and the second control channel is a physical downlink control channel (PUCCH), and each of the first data channel and the data channel scheduled by the second control channel is a physical downlink shared channel (PDSCH) or a Physical Uplink Shared Channel (PUSCH).

16. The terminal device according to claim 15, wherein a starting position of the first period of time is earlier than a starting position of the second period of time, the first control channel between the starting position of the first period of time and the starting position of the second period of time, and a second data channel are frequency division multiplexed, and the second data channel is scheduled by a control channel before the first control channel.

17. The terminal device according to claim 16, wherein the ending position of the first period of time is earlier than or equal to the starting position of the second period of time.

18. The terminal device according to any one of claims 15-17, wherein a starting position of the second control channel in the second period of time is later than the starting position of the second period of time, or, an ending position of the second control channel in the second

period of time is earlier than an ending position of the second period of time.

19. The terminal device according to any one of claims 15-18, wherein the first transceiving unit is further used for:

receiving indication information comprising information of a position of the second period of time relative to the first period of time or information of a length of the second period of time;

the second transceiving unit is further used for:

receiving or transmitting the data corresponding to the terminal device in the first data channel according to the indication information and the scheduling information for the terminal device.

20. The terminal device according to claim 19, wherein the indication information is used for indicating a relative position of the starting position of the second period of time relative to the starting position of the first period of time, or for indicating a relative position of the starting position of the second period of time relative to the ending position of the first period of time;

or,

wherein the first transceiving unit is further used for:

receiving the indication information, wherein the indication information comprises information of positions or lengths of transmission time corresponding to multiple data channels scheduled by multiple control channels, and the multiple control channels comprise the first control channel;

or,

wherein the first transceiving unit is further used for:

receiving the indication information transmitted through a high-layer signaling or physical-layer control signaling.