

CLAIMS:

1. A method for transmitting signaling with N groups of downlink control channels that are transmitted by a network device alternately, and the N groups of downlink control channels are used for N groups of terminals in a cell, comprising, for each group of downlink control channels from $n=1$ to $n=N$:

receiving, by a terminal, a first downlink control channel of a the group of downlink control channels transmitted by a the network device, wherein the first downlink control channel carries first indication information, the first indication information is used to indicate at least one piece of time domain resource information of at least one second downlink control channel of the group of downlink control channels, wherein the second downlink control channel carries second indication information being used to indicate at least one piece of time domain resource information of at least one third downlink control channel of the group of downlink control channels, and the group of downlink control channels is used for a group of terminals in the cell;

wherein before receiving the first downlink control channel of the group of downlink control channels transmitted by the network device, the method further comprises:

receiving, by the terminal, third indication information transmitted by the network device through a broadcast channel or system information, wherein the third indication information is used to indicate time domain resource information and/or frequency domain resource information of the first downlink control channel; and

wherein the group of downlink control channels are not in continuous time units,

wherein n is a positive integer less than or equal to N , and N is a positive integer, and wherein the N groups of downlink control channels are downlink control channels for N groups of beams of the cell.

2. The method according to claim 1, wherein the time domain resource information

comprises at least one piece of the following information of the downlink control channel: a time slot, a minislot, a starting symbol, a time domain length, a time domain density, and a transmission period.

3. The method according to claim 1, wherein the first indication information is further used to indicate at least one piece of frequency domain resource information of the downlink control channel.

4. A terminal, comprising: a processor, a memory, and a transceiver, the processor being communicatively coupled to the memory and the transceiver;

wherein the memory stores program codes and data, and wherein the processor is configured to invoke the program codes and the data to perform a method for transmitting signaling with N groups of downlink control channels that are transmitted by a network device alternately, and the N groups of downlink control channels are used for N groups of terminals in a cell, wherein for each group of downlink control channels form $n=1$ to $n=N$:

the processor being configured to receive, via the transceiver, a first downlink control channel of a the group of downlink control channels transmitted by a the network device, the first downlink control channel carries first indication information, the first indication information is used to indicate at least one piece of time domain resource information of at least one second downlink control channel of the group of downlink control channels, wherein the second downlink control channel carries second indication information being used to indicate at least one piece of time domain resource information of at least one third downlink control channel of the group of downlink control channels, and the group of downlink control channels is used for a group of terminals in the cell;

wherein before the processor receives, via the transceiver, the first downlink control channel of the group of downlink control channels transmitted by the network device, the processor is further configured to:

receive, via the transceiver, third indication information transmitted by the network device through a broadcast channel or system information, wherein the third indication information is used to indicate time domain resource information and/or frequency domain resource information of the first downlink control channel; and

wherein the group of downlink control channels are not in continuous time units,

wherein n is a positive integer less than or equal to N , and N is a positive integer, and wherein the N groups of downlink control channels are downlink control channels for N groups of beams of the cell.

5. The terminal according to claim 4, wherein the time domain resource information comprises at least one piece of the following information of the downlink control channel: a time slot, a minislot, a starting symbol, a time domain length, a time domain density, and a transmission period.

6. The terminal according to claim 4, wherein the first indication information is further used to indicate at least one piece of frequency domain resource information of the downlink control channel.

7. A network device, comprising a processor, a memory, and a transceiver, the processor being communicatively coupled to the memory and the transceiver, wherein the memory stores program codes and data, and wherein the processor is configured to invoke the program codes and the data to perform a method for transmitting signaling with N groups of downlink control channels that are transmitted by the network device alternately, and the N groups of downlink control channels are used for N groups of terminals in a cell, wherein for each group of downlink control channels from $n=1$ to $n=N$:

transmitting, via the transceiver, a first downlink control channel of a the group of downlink control channels, the first downlink control channel carries first indication information, the first indication information is used to indicate at least one piece of time

domain resource information of at least one second downlink control channel of the group of downlink control channels, wherein the second downlink control channel carries second indication information being used to indicate at least one piece of time domain resource information of at least one third downlink control channel of the group of downlink control channels, and the group of downlink control channels is used for a group of terminals in the cell;

wherein before the processor transmits the first downlink control channel of the group of downlink control channels via the transceiver, the processor is further configured to transmit, via the transceiver, third indication information through a broadcast channel or system information, wherein the third indication information is used to indicate time domain resource information and/or frequency domain resource information of the first downlink control channel; and

wherein the group of downlink control channels are not in continuous time units,

wherein n is a positive integer less than or equal to N , and N is a positive integer, and wherein the N groups of downlink control channels are downlink control channels for N groups of beams of the cell.

8. The network device according to claim 7, wherein the time domain resource information comprises at least one piece of the following information of the downlink control channel: a time slot, a minislot, a starting symbol, a time domain length, a time domain density, and a transmission period.

9. The network device according to claim 7, wherein the first indication information is further used to indicate at least one piece of frequency domain resource information of the downlink control channel.