

CLAIMS

1. A method for channel monitoring, comprising:

receiving, by a terminal device, first search space configuration information and second search space configuration information from a network device, wherein each of the first search space configuration information and the second search space configuration information comprises configuration information of a plurality of search spaces; and

determining, by the terminal device, to perform downlink control channel monitoring based on the first search space configuration information or the second search space configuration information based on ~~a first timer and/or first control information~~ or based on a first timer and the first control information,

wherein determining to perform downlink control channel monitoring based on the first search space configuration information or the second search space configuration information based on the first control information comprises:

performing, by the terminal device, downlink control channel monitoring in a search space corresponding to target search space configuration information indicated by the first control information after a second time length after the first control information is received, where the target search space configuration information indicated by the first control information is the first search space configuration information or the second search space configuration information,

wherein the second time length is configured by the network device; or,

the second time length is predefined.

2. The method of claim 1, wherein

configuration information of the first timer is configured by the network device; or,

configuration information of the first timer is predefined.

3. The method of claim 2, wherein the configuration information of the first timer comprises first time length information of the first timer.

4. The method of any one of claims 1-3, wherein determining to perform downlink control channel monitoring based on the first search space configuration information or the second search space configuration information based on the first timer comprises:

by the terminal device, running the first timer and performing downlink control channel monitoring based on a search space corresponding to the first search space configuration information;

restarting the first timer by the terminal device in response to detecting a downlink control channel for the terminal device at any downlink control channel monitoring time; and maintaining the first timer to conduct timekeeping in response to failing to detect any downlink control channel for the terminal device; and

when the first timer expires, executing, by the terminal device, switching to a search space corresponding to the second search space configuration information to perform downlink control channel monitoring.

5. The method of any one of claims 1-4, further comprising:

receiving, by the terminal device, the first control information from the network device, where the first control information is Downlink Control Information (DCI) or a Media Access Control Control Element (MAC CE).

~~6. The method of any one of claims 1-5, wherein determining to perform downlink control channel monitoring based on the first search space configuration information or the second search space configuration information based on the first control information comprises:~~

~~performing, by the terminal device, downlink control channel monitoring in a search~~

~~space corresponding to target search space configuration information indicated by the first control information after a second time length after the first control information is received, where the target search space configuration information indicated by the first control information is the first search space configuration information or the second search space configuration information.~~

7. The method of claim 6, wherein

~~the second time length is configured by the network device; or,~~

~~the second time length is predefined.~~

8. The method of any one of claims 1-7, wherein the first search space configuration information or the second search space configuration information comprises configuration information of one or more search spaces.

96. A method for channel monitoring, comprising:

sending, by a network device, first search space configuration information and second search space configuration information to a terminal device, where the first search space configuration information and the second search space configuration information are configured for the terminal device to determine based on ~~a first timer and/or~~ first control information or based on a first timer and the first control information to perform downlink control channel monitoring based on the first search space configuration information or the second search space configuration information, and each of the first search space configuration information and the second search space configuration information comprises configuration information of a plurality of search spaces,

wherein the first search space configuration information and the second search space configuration information are specifically configured for the terminal device to perform downlink control channel monitoring in a search space corresponding to target search space configuration information indicated by the first control information after a second time length

after the first control information is received, where the target search space configuration information indicated by the first control information is the first search space configuration information or the second search space configuration information,

wherein the second time length is configured by the network device; or,

the second time length is predefined.

107. The method of claim 96, wherein

configuration information of the first timer is configured by the network device; or,

configuration information of the first timer is predefined.

118. The method of claim ~~9 or 106~~ or 7, wherein the configuration information of the first timer comprises first time length information of the first timer.

129. The method of any one of claims ~~9-116~~-8, further comprising:

sending, by the network device, the first control information to the terminal device, where the first control information is Downlink Control Information (DCI) or a Media Access Control Control Element (MAC CE).

1310. An apparatus for channel monitoring, comprising:

a first receiving unit, configured to receive first search space configuration information and second search space configuration information from a network device, wherein each of the first search space configuration information and the second search space configuration information comprises configuration information of a plurality of search spaces; and

a monitoring unit, configured to determine based on ~~a first timer and/or~~ first control

information or based on a first timer and the first control information to perform downlink control channel monitoring based on the first search space configuration information or the second search space configuration information,

wherein the monitoring unit is configured to perform downlink control channel monitoring in a search space corresponding to target search space configuration information indicated by the first control information after a second time length after the second receiving unit receives the first control information, where the target search space configuration information indicated by the first control information is the first search space configuration information or the second search space configuration information,

wherein the second time length is configured by the network device; or,

the second time length is predefined.

~~1411~~. The apparatus of claim ~~13~~10, wherein the monitoring unit is configured to:

run the first timer and perform downlink control channel monitoring based on a search space corresponding to the first search space configuration information;

restart the first timer in response to detecting a downlink control channel for the terminal device at any downlink control channel monitoring time;

maintain the first timer to conduct timekeeping in response to failing to detect any downlink control channel for the terminal device; and

when the first timer expires, switch to a search space corresponding to the second search space configuration information to perform downlink control channel monitoring.

~~1512~~. The apparatus of claim ~~13 or 14~~10 or 11, further comprising:

a second receiving unit, configured to receive the first control information from the network device, where the first control information is Downlink Control Information (DCI) or a Media Access Control Control Element (MAC CE).

~~16. The apparatus of any one of claims 13-15, wherein the monitoring unit is configured to perform downlink control channel monitoring in a search space corresponding to target search space configuration information indicated by the first control information after a second time length after the second receiving unit receives the first control information, where the target search space configuration information indicated by the first control information is the first search space configuration information or the second search space configuration information.~~

~~17~~13. An apparatus for channel monitoring, comprising:

a first sending unit, configured to send first search space configuration information and second search space configuration information to a terminal device, where the first search space configuration information and the second search space configuration information are configured for the terminal device to determine based on ~~a first timer and/or first control information~~ or based on a first timer and the first control information to perform downlink control channel monitoring based on the first search space configuration information or the second search space configuration information, and each of the first search space configuration information and the second search space configuration information comprises configuration information of a plurality of search spaces,

wherein the first search space configuration information and the second search space configuration information are specifically configured for the terminal device to perform downlink control channel monitoring in a search space corresponding to target search space configuration information indicated by the first control information after a second time length after the first control information is received, where the target search space configuration information indicated by the first control information is the first search space configuration information or the second search space configuration information,

wherein the second time length is configured by the network device; or,

the second time length is predefined.

~~18~~14. The apparatus of claim ~~26~~13, wherein

configuration information of the first timer is configured by a network device or predefined; and/or

the configuration information of the first timer comprises first time length information of the first timer.

1915. The apparatus of claim ~~17 or 18~~ 13 or 14, further comprising:

a second sending unit, configured to send the first control information to the terminal device, where the first control information is Downlink Control Information (DCI) or a Media Access Control Control Element (MAC CE).

~~20. The apparatus of any one of claims 17-19, wherein the first search space configuration information or the second search space configuration information comprises configuration information of one or more search spaces.~~