

CLAIMS

What is claimed is:

1. A physical downlink control channel detection method, applied to a terminal and comprising:

5 obtaining at least two search space groups and a switch condition, wherein the at least two search space groups comprise a first search space group and a second search space group;

switching between the first search space group and the second search space group according to the switch condition, for PDCCH detection; and

10 performing PDCCH detection in the first search space group when the terminal initially accesses a network and obtains the at least two search space groups;

wherein the switch condition comprises a first switch condition for switching from the first search space group to the second search space group for PDCCH detection, and the first switch condition comprises:

15 switching to the second search space group for PDCCH detection in a preset time length after a time when a PDCCH that meets a preset condition is detected;

wherein the preset condition comprises: content of the PDCCH explicitly indicates switching between search space groups.

2. The physical downlink control channel detection method according to claim 1,
20 wherein the preset time length is obtained in any one of the following manners:

obtaining a predefined preset time length;

obtaining a preset time length configured by radio resource control RRC signaling;

25 obtaining a correspondence between PDCCH types and preset time lengths that is configured by RRC signaling, and determining the preset time length based on the correspondence and the PDCCH type;

obtaining a predefined correspondence between PDCCH types and preset time lengths, and determining the preset time length based on the correspondence and the PDCCH type; and

5 obtaining a preset time length that is explicitly indicated by downlink control information DCI on the PDCCH.

3. The physical downlink control channel detection method according to claim 1, wherein the preset time length is longer than or equal to a processing latency of the PDCCH.

10 4. The physical downlink control channel detection method according to claim 1, wherein the switch condition comprises a second switch condition for switching from the second search space group to the first search space group for PDCCH detection, and the second switch condition comprises any one of the following:

if the terminal has obtained channel occupancy time COT information, switching to the first search space group for PDCCH detection at the end of the COT;

15 after an effective time length that is indicated by DCI on the detected PDCCH, switching to the first search space group for PDCCH detection;

20 obtaining a predefined first timer, starting the first timer when PDCCH detection is started in the second search space group, and if no PDCCH is detected after the first timer expires, switching to the first search space group for PDCCH detection; and

obtaining a first timer that is configured by RRC signaling, starting the first timer when PDCCH detection is started in the second search space group, and if no PDCCH is detected after the first timer expires, switching to the first search space group for PDCCH detection.

25 5. The physical downlink control channel detection method according to claim 4, wherein the first timer is determined based on a channel access type.

6. A physical downlink control channel detection method, applied to a network-side device and comprising:

30 configuring at least two search space groups and a switch condition for a terminal, wherein the at least two search space groups comprise a first search space group and a second search space group, and the switch condition is used by the

terminal for switching between the first search space group and the second search space group, for physical downlink control channel detection;

wherein the switch condition comprises a first switch condition for switching from the first search space group to the second search space group for PDCCH detection, and the first switch condition comprises:

switching to the second search space group for PDCCH detection in a preset time length after a time when a PDCCH that meets a preset condition is detected;

wherein the preset condition comprises: content of the PDCCH explicitly indicates switching between search space groups.

7. The physical downlink control channel detection method according to claim 6, further comprising: configuring the preset time length for the terminal, wherein the configuring the preset time length for the terminal comprises any one of the following:

configuring the preset time length by using radio resource control RRC signaling;

configuring a correspondence between PDCCH types and preset time lengths by using RRC signaling; and

explicitly indicating a preset time length by using DCI on the PDCCH.

8. The physical downlink control channel detection method according to claim 6, wherein the switch condition comprises a second switch condition for switching from the second search space group to the first search space group for PDCCH detection, and the second switch condition comprises any one of the following:

if the terminal has obtained channel occupancy time COT information, switching to the first search space group for PDCCH detection at the end of the COT;

after an effective time length that is indicated by DCI on the detected PDCCH, switching to the first search space group for PDCCH detection;

obtaining a predefined first timer, starting the first timer when PDCCH detection is started in the second search space group, and if no PDCCH is detected after the first timer expires, switching to the first search space group for PDCCH detection; and

obtaining a first timer that is configured by RRC signaling, starting the first timer when PDCCH detection is started in the second search space group, and if no PDCCH is detected after the first timer expires, switching to the first search space group for PDCCH detection.

- 5 9. The physical downlink control channel detection method according to claim 8, wherein the first timer is determined based on a channel access type.

10 10. A physical downlink control channel detection apparatus, applied to a terminal and comprising:

an obtaining module, configured to obtain at least two search space groups and a switch condition, wherein the at least two search space groups comprise a first search space group and a second search space group; and

a processing module, configured to switch between the first search space group and the second search space group according to the switch condition, for PDCCH detection;

- 15 wherein the processing module performs PDCCH detection in the first search space group when the terminal initially accesses a network and obtains the at least two search space groups;

wherein the switch condition comprises a first switch condition for switching from the first search space group to the second search space group for PDCCH detection, and the first switch condition comprises:

switching to the second search space group for PDCCH detection in a preset time length after a time when a PDCCH that meets a preset condition is detected;

wherein the preset condition comprises: content of the PDCCH explicitly indicates switching between search space groups.

- 25 11. A physical downlink control channel detection apparatus, applied to a network-side device and comprising:

a configuration module, configured to configure at least two search space groups and a switch condition for a terminal, wherein the at least two search space groups comprise a first search space group and a second search space group, and the switch condition is used by the terminal for switching between the first search space

group and the second search space group, for physical downlink control channel detection;

wherein the switch condition comprises a first switch condition for switching from the first search space group to the second search space group for PDCCH detection, and the first switch condition comprises:

switching to the second search space group for PDCCH detection in a preset time length after a time when a PDCCH that meets a preset condition is detected;

wherein the preset condition comprises: content of the PDCCH explicitly indicates switching between search space groups.

10 12. A communications device, wherein the communications device comprises a processor, a memory, and a computer program stored in the memory and running on the processor, and when the processor executes the computer program, steps of the physical downlink control channel detection method according to any one of claims 1 to 9 are implemented.

15 13. A computer-readable storage medium, wherein the computer-readable storage medium stores a computer program, and when the computer program is executed by a processor, steps of the physical downlink control channel detection method according to any one of claims 1 to 9 are implemented.