What is claimed is:

1. A method for transmitting downlink control information, comprising:

determining, by a terminal device, a plurality of candidate resource sets for transmitting first control information;

detecting, by the terminal device, the first control information sent by a network device in the plurality of candidate resource sets;

determining, by the terminal device, a target resource set from the plurality of candidate resource sets according to a detection result of the first control information;

determining, by the terminal device, a target control channel resource corresponding to the target resource set according to the target resource set and a first mapping relationship, wherein the first mapping relationship is used for indicating a corresponding relationship between the plurality of candidate resource sets and a plurality of control channel resources; and

detecting, by the terminal device, second control information sent by the network device in the target control channel resource;

wherein the plurality of candidate resource sets comprises a control channel resource set, and different candidate resource sets in the plurality of candidate resource sets occupy different Orthogonal Frequency Division multiplexing (OFDM) symbols.

2. The method according to claim 1, wherein determining, by the terminal device, the target resource set from the plurality of candidate resource sets according to the detection result of the first control information comprises:

determining, by the terminal device, the target resource set from at least one resource set, in which the first control information is capable of being detected, in the plurality of candidate resource sets.

3. The method according to claim 2, wherein determining, by the terminal device, the target resource set from the at least one resource set, in which the first control information is capable of being detected, in the plurality of candidate resource sets comprises:

determining, by the terminal device, the at least one resource set as the target resource set; or determining, by the terminal device, the target resource set from the at least one resource set according to a signal receiving quality of the first control information;

wherein determining, by the terminal device, the target resource set from the at least one resource set, in which the first control information is capable of being detected, in the plurality of candidate resource sets comprises: determining, by the terminal device, a resource set corresponding to the first control information with a highest signal receiving quality from the at least one resource set as the target resource set; or

determining, by the terminal device, a resource set corresponding to the first control information of which a signal receiving quality is larger than or equal to a preset threshold from the at least one resource set as the target resource set.

4. The method according to any one of claims 1 to 3, wherein the first control information is control information transmitted through a Physical Control Format Indicator Channel (PCFICH), or through Downlink Control Information (DCI) in a common search space.

5. The method according to any one of claims 1 to 4, wherein the first control information indicates a size of a time-domain resource for transmitting control information in a current time-domain resource unit, or the first control information indicates a size of a time-domain resource for transmitting the second control information in a current time-domain resource unit.

6. A terminal device, comprising:

a determination unit, used for determining a plurality of candidate resource sets for transmitting first control information; and

a detection unit, used for detecting the first control information sent by a network device in the plurality of candidate resource sets;

wherein the determination unit is further used for determining a target resource set from the plurality of candidate resource sets according to a detection result of the first control information;

the determination unit is further used for determining a target control channel resource

corresponding to the target resource set according to the target resource set and a first mapping relationship, wherein the first mapping relationship is used for indicating a corresponding relationship between the plurality of candidate resource sets and a plurality of control channel resources;

the detection unit is further used for detecting second control information sent by the network device in the target control channel resource;

wherein the plurality of candidate resource sets comprises a control channel resource set, and different candidate resource sets in the plurality of candidate resource sets occupy different Orthogonal Frequency Division multiplexing (OFDM) symbols.

7. The terminal device according to claim 6, wherein the determination unit is specifically used for:

determining the target resource set from at least one resource set, in which the first control information is capable of being detected, in the plurality of candidate resource sets.

8. The terminal device according to claim 7, wherein the determination unit is specifically used for:

determining the at least one resource set as the target resource set; or determining the target resource set from the at least one resource set according to a signal receiving quality of the first control information;

wherein the determination unit is specifically used for: determining a resource set corresponding to the first control information with a highest signal receiving quality from the at least one resource set as the target resource set; or determining a resource set corresponding to the first control information of which a signal receiving quality is larger than or equal to a preset threshold from the at least one resource set as the target resource set.

9. The terminal device according to any one of claims 6 to 8, wherein the first control information is control information transmitted through a Physical Control Format Indicator Channel (PCFICH), or through Downlink Control Information (DCI) in a common search space.

10. The terminal device according to any one of claims 6 to 9, wherein the first control information indicates a size of a time-domain resource for transmitting control information in a current time-domain resource unit, or the first control information indicates a size of a time-domain resource for transmitting the second control information in a current time-domain resource unit.

11. A network device, comprising:

a determination unit, used for determining a plurality of candidate resource sets for transmitting first control information; and

a sending unit, used for sending the first control information to a terminal device in the plurality of candidate resource sets, wherein, a beam for sending the first control information on each candidate resource set is different from beams for sending the first control information on other candidate resource sets in the plurality of candidate resource sets;

wherein the determination unit is further used for determining a plurality of control channel resources corresponding to the plurality of candidate resource sets;

the sending unit is further used for sending second control information to the terminal device on the plurality of control channel resources, wherein, a beam for sending the second control information on each control channel resource is the same as a beam for transmitting the first control information on a candidate resource set corresponding to the each control channel resource;

wherein the plurality of candidate resource sets comprises a control channel resource set, and different candidate resource sets in the plurality of candidate resource sets occupy different Orthogonal Frequency Division multiplexing (OFDM) symbols.

12. The network device according to claim 11, wherein the first control information is control information transmitted through a Physical Control Format Indicator Channel (PCFICH), or through Downlink Control Information (DCI) in a common search space.

13. The network device according to claim 11 or 12, wherein the first control information indicates a size of a time-domain resource for transmitting control information in a current time-domain resource unit, or the first control information indicates a size of a time-domain

resource for transmitting the second control information in a current time-domain resource unit.