

WHAT IS CLAIMED IS:

1. A method for transmitting control information, for a control information transmitting terminal, the control information comprising a first part of control information and a second part of control information; the method comprising:

transmitting the first part of control information to a control information receiving terminal through a first physical layer channel occupying a first time-frequency resource;

transmitting first indication information to the control information receiving terminal, the first indication information being configured to indicate a size of a second time-frequency resource and the second time-frequency resource being configured to be occupied when transmitting the second part of control information; and

transmitting the second part of control information to the control information receiving terminal through a second physical layer channel occupying the second time-frequency resource;

wherein the method further comprises:

calculating the size of the second time-frequency resource based on a first parameter; and

determining the first indication information based on a value of the first parameter,

wherein

the second physical layer channel is a physical layer channel for data transmission; and
the first parameter includes a parameter for adjusting a ratio of coding efficiencies of the second part of control information and data information.

~~2. The method as claimed in claim 1, further comprising:~~

~~calculating the size of the second time-frequency resource based on a first parameter; and~~

~~determining the first indication information based on a value of the first parameter.~~

~~32. The method as claimed in claim 1 or 2, wherein the first physical layer channel is physical sidelink control channel₁ (PSCCH); the second physical layer channel is physical sidelink shared channel₁ (PSSCH).~~

~~43. The method as claimed in any one of claims 1 to 32, wherein the control information transmitting terminal connects with the control information receiving terminal through sidelink.~~

54. The method as claimed in any one of claims 1 to 43, wherein the second part of control information comprises hybrid automatic repeat request, (HARQ), related information.

5. The method as claimed in any one of claims 1 to 4, wherein determining the first indication information based on the value of the first parameter, comprises:

receiving downlink signaling configuration of a base station and determining the first indication information using the value of the first parameter indicated in the downlink signaling configuration,

or, determining the first indication information using the value of the first parameter indicated in pre-configuration.

6. The method as claimed in any one of claims 1 to 4, wherein determining the first indication information based on the value of the first parameter, comprises:

receiving downlink signaling configuration of a base station, obtaining a first mapping relationship between the value of the first parameter and the first indication information in the downlink signaling configuration, and determining the first indication information using the first mapping relationship,

or, obtaining a second mapping relationship between the value of the first parameter and the first indication information in pre-configuration and determining the first indication information using the second mapping relationship.

67. The method as claimed in ~~any one of claims 1 to 5~~claim 1, wherein transmitting the first indication information to the control information receiving terminal comprises:

adding the first indication information into the first part of control information; and
transmitting the first part of control information carrying the first indication information to the control information receiving terminal through the first physical layer channel occupying the first time-frequency resource.

78. The method as claimed in ~~any one of claims 1 to 5~~claim 1, wherein transmitting the first indication information to the control information receiving terminal comprises:

determining a physical layer parameter corresponding to the first indication information, wherein different first indication information correspond to different physical layer parameters; and

transmitting the first physical layer channel that carries the first part of control information to the control information receiving terminal using the corresponding physical layer parameter.

89. The method as claimed in claim 87, wherein the physical layer parameter comprises at least one of:

a demodulation reference signal₁ (DMRS)₁ sequence of the first physical layer channel for transmitting the first part of control information; and

a transmission format used when transmitting the first part of control information.

910. A method for transmitting control information, for a control information receiving terminal, the control information comprising a first part of control information and a second part of control information; the method comprising:

receiving, on a first time-frequency resource, the first part of control information from a control information transmitting terminal through a first physical layer channel;

receiving first indication information from the control information transmitting terminal, the first indication information being configured to indicate a size of a second time-frequency resource and the second time-frequency resource being configured to be occupied when transmitting the second part of control information; and

receiving, on the second time-frequency resource, the second part of control information from the control information transmitting terminal through a second physical layer channel₁

wherein the method further comprises:

calculating the size of the second time-frequency resource based on a first parameter; and

determining the first indication information based on a value of the first parameter,

wherein

the second physical layer channel is a physical layer channel for data transmission; and
the first parameter includes a parameter for adjusting a ratio of coding efficiencies of the second part of control information and data information.

~~10. The method as claimed in claim 9, further comprising:~~

~~determining a value of a first parameter based on the first indication information; and~~

~~calculating the size of the second time-frequency resource based on the first parameter.~~

~~11. The method as claimed in claim 9 or 10, wherein the first physical layer channel is~~

~~physical sidelink control channel (PSCCH); the second physical layer channel is physical sidelink shared channel (PSSCH).~~

~~12. The method as claimed in any one of claims 9 to 11, wherein the control information transmitting terminal connects with the control information receiving terminal through sidelink.~~

~~13. The method as claimed in any one of claims 9 to 12, wherein the second part of control information comprises hybrid automatic repeat request (HARQ) related information.~~

~~14~~11. The method as claimed in ~~any one of claims 9 to 13~~claim 10, wherein the first part of control information comprises the first indication information; and

receiving the first indication information from the control information transmitting terminal comprises:

obtaining the first indication information from the first part of control information.

~~15~~12. The method as claimed in ~~any one of claims 9 to 13~~claim 10, wherein receiving the first indication information from the control information transmitting terminal comprises:

detecting a physical layer parameter used by the first physical layer channel carrying the first part of control information; and

determining the first indication information based on the physical layer parameter used, wherein different physical layer parameters correspond to different first indication information.

~~16. The method as claimed in claim 15, wherein the physical layer parameter comprises at least one of:~~

~~a demodulation reference signal (DMRS) sequence of the first physical layer channel for transmitting the first part of control information; and~~

~~a transmission format used when transmitting the first part of control information.~~

~~17~~13. A non-transitory computer-readable storage medium having stored therein a computer program that is configured to perform, when run in the computer, the method for transmitting control information as claimed in any one of claims 1 to ~~8~~12.

~~18. A non-transitory computer-readable storage medium having stored therein a computer~~

~~program that is configured to perform the method for transmitting control information as claimed in any one of claims 9 to 16.~~

~~19~~14. A device for transmitting control information, for a control information transmitting terminal, the control information comprising a first part of control information and a second part of control information; the device comprising:

a processor; and

a memory for storing instructions executable by the processor;

wherein the processor is configured to perform the method for transmitting control information as claimed in any one of claims 1 to ~~8~~9.

~~20~~15. A device for transmitting control information, for a control information receiving terminal, the control information comprising a first part of control information and a second part of control information; the device comprising:

a processor; and

a memory for storing instructions executable by the processor;

wherein the processor is configured to perform the method for transmitting control information as claimed in any one of claims ~~9-10~~ to ~~16~~12.