

WHAT IS CLAIMED IS:

1. A method for transmission of uplink control information, comprising:

selecting, by a terminal, from at least one set of Physical Uplink Shared Channel (PUSCH) configuration parameters, a corresponding first ~~Physical Uplink Shared Channel (PUSCH)~~ configuration parameter, according to at least one of a type of PUSCH or a type of uplink control information, wherein the at least one set of PUSCH configuration parameters comprises a set of scaling parameters corresponding to at least one of: different types of PUSCHs, or, different types of uplink control information, and one of the scaling parameters is configured to limit a maximum number of Resource Elements (REs) assigned to uplink control information on a PUSCH; and

transmitting, by the terminal, the uplink control information, based on the first PUSCH configuration parameter;

wherein different PUSCH configuration parameters correspond to at least one of:

different types of PUSCHs, or,

different types of uplink control information.

2. The method of claim 1, further comprising:

receiving, by the terminal, the at least one set of PUSCH configuration parameters configured by a network device; or

configuring, in a predefined manner, the at least one set of PUSCH configuration parameters for the terminal.

3. The method of claim 2, wherein receiving, by the terminal, the at least one set of PUSCH configuration parameters configured by the network device comprises:

receiving, by the terminal, the at least one set of PUSCH configuration parameters configured by the network device through high-layer signaling.

4. The method of any one of claims 1 to 3, wherein the type of PUSCH comprises one of the followings that:

data carried by PUSCH belongs to different service types or different service type groups;

data carried by PUSCH belongs to different service priorities or different service priority groups;

data carried by PUSCH belongs to different logical channels or different logical channel groups;

downlink control information for scheduling PUSCH belongs to different physical layer Downlink Control Information (DCI) formats or different DCI format groups;

Radio Network Temporary Identifiers (RNTIs) for scrambling physical layer downlink control information for scheduling PUSCH are different RNTIs or belong to different RNTI groups; and

information carried by downlink control information for scheduling PUSCH is different.

5. The method of any one of claims 1 to 3, wherein the type of uplink control information corresponds to at least one type of information carried in Downlink Control Information (DCI) for scheduling a Physical Downlink Shared Channel (PDSCH).

6. The method of any one of claims 1 to 3, wherein categories of the uplink control information comprise: Hybrid Automatic Repeat Request Acknowledgement/Negative Acknowledgement (HARQ-ACK/NACK), a first part of Channel State Information (CSI part 1), and a second part of Channel State Information (CSI part 2).

7. The method of any one of claims 2-1 or to 3, wherein the at least one set of PUSCH configuration parameters further comprises at least one of:

~~a first set of configuration parameters, wherein the first set of configuration parameters comprises~~ state parameters corresponding to at least one of: different types of PUSCHs, or, different types of uplink control information, and one of the state parameters

indicates whether to allow a first type of uplink control information to be transmitted on a first type of PUSCH;

~~a second set of configuration parameters, wherein the second set of configuration parameters comprises scaling parameters corresponding to at least one of: different types of PUSCHs, or, different types of uplink control information, and one of the scaling parameters is configured to limit a maximum number of Resource Elements (REs) assigned to uplink control information on a PUSCH;~~

~~a third set of configuration parameters, wherein the third set of configuration parameters comprises beta-offset parameters corresponding to at least one of: different types of PUSCHs, or, different types of uplink control information, and one of the beta-offset parameters indicates beta-offsets of a first type of uplink control information relative to data carried by a first type of PUSCH; or,~~

~~a fourth set of configuration parameters, wherein the fourth set of configuration parameters comprises at least one of: categories of uplink control information capable of being transmitted on different types of PUSCHs, or, payload sizes of uplink control information capable of being transmitted on different types of PUSCHs;~~

wherein the first type of PUSCH is any one of the types of PUSCHs; and the first type of uplink control information is any one of the types of uplink control information.

8. The method of claim 7, wherein when the first PUSCH configuration parameter is a configuration parameter in the ~~first set of configuration state~~ state parameters, transmitting, based on the first PUSCH configuration parameter, the uplink control information comprises:

transmitting, by the terminal, based on the state parameter in the first PUSCH configuration parameter, a corresponding type of uplink control information on a corresponding type of PUSCH, or not transmitting a corresponding type of uplink control information on a corresponding type of PUSCH.

9. The method of claim 7, wherein categories of a first type of uplink control information capable of being transmitted on PUSCH comprise none or at least one of: Hybrid Automatic Repeat Request Acknowledgement/Negative Acknowledgement (HARQ-ACK/NACK), a

first part of Channel State Information (CSI part 1), or, a second part of Channel State Information (CSI part 2); and

the first type of uplink control information is any one of the types of uplink control information.

10. The method of claim 9, wherein categories of uplink control information comprised in sets of the first type of uplink control information capable of being transmitted on different types of PUSCHs are different.

11. The method of claim 7, wherein each of categories of a first type of uplink control information capable of being transmitted on different types of PUSCHs has a different payload size; and

the first type of uplink control information is any one of the types of uplink control information.

12. The method of claim 7, wherein when a beta-offset is determined in a semi-static manner, each of indication parameters comprised in the beta-offset parameters comprises a plurality of beta-offsets corresponding to at least one of: the types of PUSCHs, or, the types of uplink control information; and

the indication parameters comprised in the beta-offset parameters comprise: beta-offsets of HARQ-ACK less than or equal to 2 bits, beta-offsets of HARQ-ACK greater than 2 bits and less than or equal to 11 bits, beta-offsets of HARQ-ACK greater than 11 bits, beta-offsets of CSI part 1 or CSI part 2 less than or equal to 11 bits, and beta-offsets of CSI part 1 or CSI part 2 greater than 11 bits.

13. The method of claim 7, wherein when a beta-offset is determined in a dynamic manner, dynamically corresponding beta-offset parameters configured by the ~~first~~ at least one set of PUSCH configuration parameters comprise a plurality of beta-offsets corresponding to at least one of: the types of PUSCHs, or, the types of uplink control information.

14. A method for transmission of uplink control information, comprising:

configuring, by a network device, at least one set of Physical Uplink Shared Channel (PUSCH) configuration parameters for a terminal, wherein the at least one set of PUSCH configuration parameters comprises a set of scaling parameters corresponding to at least one of: different types of PUSCHs, or, different types of uplink control information, and one of the scaling parameters is configured to limit a maximum number of Resource Elements (REs) assigned to uplink control information on a PUSCH, wherein different PUSCH configuration parameters corresponding to at least one of: different types of PUSCHs, or, different types of uplink control information; and

sending, by the network device, the at least one set of PUSCH configuration parameters to the terminal.

15. The method of claim 14, wherein sending, by the network device, the at least one set of PUSCH configuration parameters to the terminal comprises:

sending, by the network device, the at least one set of PUSCH configuration parameters to the terminal, through high-layer signaling.

16. The method of claim 14 or 15, wherein the type of PUSCH comprises one of the followings that:

data carried by PUSCH belongs to different service types or different service type groups;

data carried by PUSCH belongs to different service priorities or different service priority groups;

data carried by PUSCH belongs to different logical channels or different logical channel groups;

downlink control information for scheduling PUSCH belongs to different physical layer Downlink Control Information (DCI) formats or different DCI format groups;

Radio Network Temporary Identifiers (RNTIs) for scrambling physical layer downlink control information for scheduling PUSCH are different RNTIs or belong to different RNTI groups; and

information carried by downlink control information for scheduling PUSCH is different.

17. The method of claim 14 or 15, wherein the type of uplink control information corresponds to at least one type of information carried in Downlink Control Information (DCI) for scheduling a Physical Downlink Shared Channel (PDSCH).

18. The method of claim 14 or 15, wherein the at least one set of PUSCH configuration parameters further comprises at least one of:

~~a first set of configuration parameters, wherein the first set of configuration parameters comprises~~ state parameters corresponding to at least one of: different types of PUSCHs, or, different types of uplink control information, and one of the state parameters indicates whether to allow a first type of uplink control information to be transmitted on a first type of PUSCH;

~~a second set of configuration parameters, wherein the second set of configuration parameters comprises scaling parameters corresponding to at least one of: different types of PUSCHs, or, different types of uplink control information, and one of the scaling parameters is configured to limit a maximum number of Resource Elements (REs) assigned to uplink control information on a PUSCH;~~

~~a third set of configuration parameters, wherein the third set of configuration parameters comprises beta-offset parameters corresponding to at least one of: different types of PUSCHs, or, different types of uplink control information, and one of the beta-offset parameters indicates beta-offsets of a first type of uplink control information relative to data carried by a first type of PUSCH; or,~~

~~a fourth set of configuration parameters, wherein the fourth set of configuration parameters comprises at least one of: categories of uplink control information capable of being transmitted on different types of PUSCHs, or, payload sizes of uplink control information capable of being transmitted on different types of PUSCHs;~~

wherein the first type of PUSCH is any one of the types of PUSCHs; and the first type of uplink control information is any one of the types of uplink control information.

19. A terminal comprising a memory, a processor, and a computer program stored on the memory and executable on the processor, wherein the processor is configured to execute the computer program to implement the steps of the method of any one of claims 1 to 13.

20. A network device comprising a memory, a processor, and a computer program stored on the memory and executable on the processor, wherein the processor is configured to execute the computer program to implement the steps of the method of any one of claims 14 to 18.