

WHAT IS CLAIMED IS:

CLAIMS

1. An aggregation method, comprising:
 - 5 obtaining, by a user equipment (UE), information on at least one of: a total number of slots to be aggregated for carrying uplink control information (UCI), and a structure of each slot;
 - aggregating, by the UE, a plurality of slots according to the information on the at least one of the total number of slots to be aggregated and the structure of each slot; and
 - 10 sending, by the UE, physical uplink control channel (PUCCH) to a gNodeB (gNB) via the aggregated slots.
2. The aggregation method according to claim 1, further comprising:
 - obtaining, by the UE, information on the first slot of the slots to be aggregated,
 - 15 wherein the aggregating, by the UE, a plurality of slots according to the information on the at least one of the total number of slots to be aggregated and the structure of each slot comprises:
 - aggregating, by the UE, a plurality of slots according to the information on the at least one of the total number of slots to be aggregated, the structure of each slot, and the information on the first slot of the slots to be aggregated.
- 20 3. The aggregation method according to claim 1 or 2, wherein the obtaining, by a UE, information on at least one of: a total number of slots to be aggregated for carrying UCI and a structure of each slot comprises:
 - obtaining, by the UE, the total number of slots to be aggregated from a gNodeB (gNB).
- 25 4. The aggregation method according to any one of claims 1-3, wherein the obtaining, by a UE, information on at least one of a total number of slots to be aggregated and a structure of each slot to be aggregated for carrying UCI comprises:
 - obtaining, by the UE, the structure of each slot to be aggregated from a gNB; or
 - obtaining, by the UE, the structure of each slot to be aggregated according to a protocol.
- 30 5. The aggregation method according to any one of claims 1-4, wherein the aggregating, by the UE, a plurality of slots comprises:
 - aggregating a plurality of slots by aggregating one or more physical resource blocks (PRBs) of each slot, the one or more PRBs being positioned in a same manner in the slots, or
 - 35 wherein the aggregating, by the UE, a plurality of slots comprises:
 - aggregating a plurality of slots by aggregating one or more physical resource blocks (PRBs) of each slot, the one or more PRBs being positioned in different manners in the slots.
6. The aggregation method according to any one of claim 1-5, wherein the PUCCH is long format
- 40 PUCCH.
7. The aggregation method according to claim 6, wherein the long format PUCCH is a new radio (NR) PUCCH of format 1.

8. An aggregation method, comprising:
signaling, by a gNodeB (gNB), information on at least one of: a total number of slots to be aggregated for carrying uplink control information (UCI), and a structure of each slot to a user equipment (UE); and
5 receiving, by the gNB, physical uplink control channel (PUCCH) from the UE via a plurality of slots aggregated according to the information on the at least one of the total number of slots to be aggregated and the structure of each slot.
9. The aggregation method according to claim 8, further comprising:
10 signaling, by the gNB, information on the first slot of the slots to be aggregated,
wherein the plurality of slots are aggregated according to the information on the at least one of the total number of slots to be aggregated, the structure of each slot, and the information on the first slot of the slots to be aggregated.
- 15 10. The aggregation method according to claim 8 or 9, wherein receiving, by the gNB, PUCCH from the UE via a plurality of slots aggregated according to the information on the at least one of the total number of slots to be aggregated and the structure of each slot comprises:
receiving, by the gNB, PUCCH from the UE via aggregated slots which are aggregated by
aggregating a plurality of slots by aggregating one or more physical resource blocks (PRBs) of each
20 slot, the one or more PRBs being positioned in a same manner in the slots, or
wherein receiving, by the gNB, PUCCH from the UE via a plurality of slots aggregated according to the information on the at least one of the total number of slots to be aggregated and the structure of each slot comprises:
receiving, by the gNB, PUCCH from the UE via aggregated slots which are aggregated by
25 aggregating a plurality of slots by aggregating one or more physical resource blocks (PRBs) of each slot, the one or more PRBs being positioned in different manners in the slots.
11. The aggregation method according to any one of claim 8-10, wherein the PUCCH is long format PUCCH.
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12. A user equipment (UE), comprising:
an obtaining module configured to obtain information on at least one of a total number of slots to be aggregated for carrying uplink control information (UCI), and a structure of each slot;
an aggregating module configured to aggregate a plurality of slots according to the information on
35 the at least one of the total number of slots to be aggregated and the structure of each slot; and
a sending module configured to send physical uplink control channel (PUCCH) to a gNodeB (gNB) via the aggregated slots.
13. The UE according to claim 12, wherein the obtaining module is further configured to obtain
40 information on the first slot of the slots to be aggregated, and wherein the aggregating module is configured to aggregate a plurality of slots according to the information on the at least one of the total number of slots to be aggregated, the structure of each slot, and the information on the first slot of the slots to be aggregated.

14. The UE according to claim 12 or 13, wherein the obtaining module is configured to:
obtain the total number of slots to be aggregated from a gNodeB (gNB).
15. The UE according to any one of claims 12-14, wherein the obtaining module is configured to:
5 obtain the structure of each slot to be aggregated from a gNB; or
obtain the structure of each slot to be aggregated according to a protocol.
16. The UE according to any one of claims 12-15, wherein the aggregating module is configured
to:
10 aggregate a plurality of slots by aggregating one or more physical resource blocks (PRBs) of each
slot, the one or more PRBs being positioned in a same manner in the slots, or
wherein the aggregating module is configured to:
aggregate a plurality of slots by aggregating one or more physical resource blocks (PRBs) of each
slot, the one or more PRBs being positioned in different manners in the slots.
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17. The UE according to any one of claim 12-16, wherein the PUCCH is long format PUCCH.
18. The UE according to claim 17, wherein the long format PUCCH is a new radio (NR) PUCCH
of format 1.
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19. A gNodeB (gNB), comprising:
a signaling module configured to signal information on at least one of: a total number of slots to be
aggregated for carrying uplink control information (UCI), and a structure of each slot to a user
equipment (UE); and
25 an obtaining module configured to receive physical uplink control channel (PUCCH) from the UE
via a plurality of slots aggregated according to the information on the at least one of the total number
of slots to be aggregated and the structure of each slot.
20. The gNB according to claim 19, wherein the signaling module is further configured to signal
30 information on the first slot of the slots to be aggregated, and wherein the obtaining module is
configured to receive PUCCH from the UE via a plurality of slots which are aggregated according
to the information on the at least one of the total number of slots to be aggregated, the structure of
each slot, and the information on the first slot of the slots to be aggregated.
- 35 21. The gNB according to claim 19 or 20, wherein the obtaining module is configured to:
receive PUCCH from the UE via aggregated slots which are aggregated by aggregating a plurality
of slots by aggregating one or more physical resource blocks (PRBs) of each slot, the one or more
PRBs being positioned in a same manner in the slots, or
wherein the obtaining module is configured to:
40 receive PUCCH from the UE via aggregated slots which are aggregated by aggregating a plurality
of slots by aggregating one or more physical resource blocks (PRBs) of each slot, the one or more
PRBs being positioned in different manners in the slots.
22. The gNB according to any one of claims 19-21, wherein the PUCCH is long format PUCCH.

23. A user equipment (UE) comprising:
a memory for storing instructions;
a transceiver;
a processor configured to execute the instructions and cooperate with the transceiver to perform the
5 method of any one of claims 1-7.

24. A gNodeB (gNB) comprising:
a memory for storing instructions;
a transceiver;
10 a processor configured to execute the instructions and cooperate with the transceiver to perform the
method of any one of claims 8-11.