

CLAIMS

What is claimed is:

1. An information transmission method, comprising:

determining, ~~by a terminal device~~, a first resource in a first time unit, wherein the first resource carries first feedback information, and the first feedback information is feedback information of first data; and

sending, ~~by the terminal device~~, the first feedback information to a network device on a second resource in a second time unit in the case that the first resource comprises a non-uplink resource, wherein the second time unit is a time unit later than the first time unit in time.

2. The method according to claim 1, wherein the first resource comprises M symbols, a quantity of uplink symbols comprised in the second time unit is greater than or equal to M, and M is an integer greater than 0.

3. The method according to claim 1 or 2, wherein the second time unit is a time unit closest to the first time unit in time among one or more third time units; and

the first resource comprises M symbols, the third time units are time units in which a quantity of uplink symbols is greater than or equal to M, and M is an integer greater than 0, or the third time units are time units comprising only uplink symbols.

4. The method according to any one of claims 1 to 3, wherein ~~a time interval between the second time unit and the first time unit is less than or equal to a first time interval; or an interval between the second time unit and a time unit in which a first downlink shared channel PDSCH is located is less than or equal to the first time interval~~, and the first PDSCH carries the first data.

5. The method according to claim 4, further comprising:

receiving, ~~by the terminal device~~, first information from the network device, wherein the first information indicates one or more second time intervals, and each of the second time intervals is a time interval between a time unit in which a downlink shared channel is located and a time unit in which feedback information of the downlink shared channel is located; and

the first time interval is equal to a maximum time interval among the one or more second time intervals.

6. The method according to claim 4, further comprising:

receiving, ~~by the terminal device~~, second information from the network device, wherein the

second information indicates the first time interval.

7. The method according to any one of claims 1 to 6, wherein the sending, ~~by the terminal device,~~ the first feedback information to a network device on a second resource in a second time unit comprises:

5 sending, ~~by the terminal device,~~ a first hybrid automatic repeat request HARQ-ACK codebook to the network device on the second resource in the second time unit, wherein the first HARQ-ACK codebook comprises the first feedback information.

8. The method according to claim 7, wherein the sending, ~~by the terminal device,~~ a first HARQ-ACK codebook to the network device on the second resource in the second time unit
10 comprises:

~~sending, by the terminal device,~~ the first HARQ-ACK codebook to the network device on the second resource in the case that the second resource partially or completely overlaps a third resource and a priority of the first HARQ-ACK codebook is higher than a priority of a second HARQ-ACK codebook, wherein

15 the third resource carries the second HARQ-ACK codebook comprising second feedback information, and the second feedback information is feedback information of second data.

9. The method according to any one of claims 1 to 8, wherein the non-uplink resource comprises one or more of the following resources:

 a downlink resource, a flexible resource, or a reserved resource.

20 10. An information transmission method, comprising:

~~determining, by a network device,~~ a first resource in a first time unit, wherein the first resource carries first feedback information, and the first feedback information is feedback information of first data; and

~~receiving, by the network device,~~ the first feedback information from a terminal device on a
25 second resource in a second time unit in the case that the first resource comprises a non-uplink resource, wherein the second time unit is a time unit later than the first time unit in time.

11. The method according to claim 10, wherein the first resource comprises M symbols, a quantity of uplink symbols comprised in the second time unit is greater than or equal to M, and M is an integer greater than 0.

30 12. The method according to claim 10 or 11, wherein the second time unit is a time unit closest to the first time unit in time among one or more third time units; and

the first resource comprises M symbols, the third time units are time units in which a quantity of uplink symbols is greater than or equal to M, and M is an integer greater than 0, or the third time units are time units comprising only uplink symbols.

13. The method according to any one of claims 10 to 12, wherein ~~a time interval between the second time unit and the first time unit is less than or equal to a first time interval;~~ or an interval between the second time unit and a time unit in which a first downlink shared channel PDSCH is located is less than or equal to the first time interval, and the first PDSCH carries the first data.

14. The method according to claim 13, further comprising:

sending, by the network device, first information to the terminal device, wherein the first information indicates one or more second time intervals, and each of the second time intervals is a time interval between a time unit in which a downlink shared channel is located and a time unit in which feedback information of the downlink shared channel is located; and

the first time interval is equal to a maximum time interval among the one or more second time intervals.

15. The method according to claim 13, further comprising:

~~sending, by the network device,~~ second information to the terminal device, wherein the second information indicates the first time interval.

16. The method according to any one of claims 10 to 15, wherein the receiving, ~~by the network device,~~ the first feedback information from a terminal device on a second resource in a second time unit comprises:

~~receiving, by the network device,~~ a first hybrid automatic repeat request HARQ-ACK codebook from the terminal device on the second resource in the second time unit, wherein the first HARQ-ACK codebook comprises the first feedback information.

17. The method according to claim 16, wherein the receiving, ~~by the network device,~~ a first HARQ-ACK codebook from the terminal device on the second resource in the second time unit comprises:

~~receiving, by the network device,~~ the first HARQ-ACK codebook from the terminal device on the second resource in the case that the second resource partially or completely overlaps a third resource and a priority of the first HARQ-ACK codebook is higher than a priority of a second HARQ-ACK codebook, wherein

the third resource carries the second HARQ-ACK codebook comprising second feedback

information, and the second feedback information is feedback information of second data.

18. The method according to any one of claims 10 to 17, wherein the non-uplink resource comprises one or more of the following resources:

a downlink resource, a flexible resource, or a reserved resource.

5 19. A communication apparatus, comprising:

a processing unit, configured to determine a first resource in a first time unit, wherein the first resource carries first feedback information, and the first feedback information is feedback information of first data; and

10 a transceiver unit, configured to send the first feedback information to a network device on a second resource in a second time unit in the case that the first resource comprises a non-uplink resource, wherein the second time unit is a time unit later than the first time unit in time.

20. The apparatus according to claim 19, wherein the first resource comprises M symbols, a quantity of uplink symbols comprised in the second time unit is greater than or equal to M , and M is an integer greater than 0.

15 21. The apparatus according to claim 19 or 20, wherein the second time unit is a time unit closest to the first time unit in time among one or more third time units; and

the first resource comprises M symbols, the third time units are time units in which a quantity of uplink symbols is greater than or equal to M , and M is an integer greater than 0, or the third time units are time units comprising only uplink symbols.

20 22. The apparatus according to any one of claims 19 to 21, wherein a time interval between the second time unit and the first time unit is less than or equal to a first time interval; or an interval between the second time unit and a time unit in which a first downlink shared channel PDSCH is located is less than or equal to the first time interval, and the first PDSCH carries the first data.

23. The apparatus according to claim 22, wherein

25 the transceiver unit is further configured to receive first information from the network device, wherein the first information indicates one or more second time intervals, and each of the second time intervals is a time interval between a time unit in which a downlink shared channel is located and a time unit in which feedback information of the downlink shared channel is located; and

30 the first time interval is equal to a maximum time interval among the one or more second time intervals.

24. The apparatus according to claim 22, wherein

the transceiver unit is further configured to receive second information from the network device, wherein the second information indicates the first time interval.

25. The apparatus according to any one of claims 19 to 24, wherein

the transceiver unit is further configured to send a first hybrid automatic repeat request HARQ-ACK codebook to the network device on the second resource in the second time unit, wherein the first HARQ-ACK codebook comprises the first feedback information.

26. The apparatus according to claim 25, wherein

the transceiver unit is further configured to send the first HARQ-ACK codebook to the network device on the second resource in the case that the second resource partially or completely overlaps a third resource and a priority of the first HARQ-ACK codebook is higher than a priority of a second HARQ-ACK codebook, wherein

the third resource carries the second HARQ-ACK codebook comprising second feedback information, and the second feedback information is feedback information of second data.

27. The apparatus according to any one of claims 19 to 26, wherein the non-uplink resource comprises one or more of the following resources:

a downlink resource, a flexible resource, or a reserved resource.

28. A communication apparatus, comprising:

a processing unit, configured to determine a first resource in a first time unit, wherein the first resource carries first feedback information, and the first feedback information is feedback information of first data; and

a transceiver unit, configured to receive, by a network device, the first feedback information from a terminal device on a second resource in a second time unit in the case that the first resource comprises a non-uplink resource, wherein the second time unit is a time unit later than the first time unit in time.

29. The apparatus according to claim 28, wherein the first resource comprises M symbols, a quantity of uplink symbols comprised in the second time unit is greater than or equal to M, and M is an integer greater than 0.

30. The apparatus according to claim 28 or 29, wherein the second time unit is a time unit closest to the first time unit in time among one or more third time units; and

the first resource comprises M symbols, the third time units are time units in which a quantity of uplink symbols is greater than or equal to M, and M is an integer greater than 0, or the third

time units are time units comprising only uplink symbols.

31. The apparatus according to any one of claims 28 to 30, wherein a time interval between the second time unit and the first time unit is less than or equal to a first time interval; or an interval between the second time unit and a time unit in which a first downlink shared channel PDSCH is located is less than or equal to the first time interval, and the first PDSCH carries the first data.

32. The apparatus according to claim 31, wherein the transceiver unit is further configured to send first information to the terminal device, wherein the first information indicates one or more second time intervals, and each of the second time intervals is a time interval between a time unit in which a downlink shared channel is located and a time unit in which feedback information of the downlink shared channel is located; and the first time interval is equal to a maximum time interval among the one or more second time intervals.

33. The apparatus according to claim 31, wherein the transceiver unit is further configured to send second information to the terminal device, wherein the second information indicates the first time interval.

34. The apparatus according to any one of claims 28 to 33, wherein the transceiver unit is further configured to receive a first hybrid automatic repeat request HARQ-ACK codebook from the terminal device on the second resource in the second time unit, wherein the first HARQ-ACK codebook comprises the first feedback information.

35. The apparatus according to claim 34, wherein the transceiver unit is further configured to receive the first HARQ-ACK codebook from the terminal device on the second resource in the case that the second resource partially or completely overlaps a third resource and a priority of the first HARQ-ACK codebook is higher than a priority of a second HARQ-ACK codebook, wherein

the third resource carries the second HARQ-ACK codebook comprising second feedback information, and the second feedback information is feedback information of second data.

36. The apparatus according to any one of claims 28 to 35, wherein the non-uplink resource comprises one or more of the following resources:

a downlink resource, a flexible resource, or a reserved resource.

37. A communication apparatus, comprising at least one processor coupled to a memory, wherein

the memory is configured to store a program or instructions; and

the at least one processor is configured to execute the program or the instructions, so that the apparatus implements the method according to any one of claims 1 to 18.

38. A computer-readable storage medium, comprising a computer program, when executed
5 by one or more processors, causing an apparatus comprising the one or more processors to perform the method according to any one of claims 1 to 18.

~~39. A computer program product, comprising a computer program, when executed, causing a
computer to perform the method according to any one of claims 1 to 18.~~

4039. A chip, comprising at least one processor and a communication interface, wherein
10 the communication interface is configured to receive a signal input to the chip or a signal output from the chip, and the at least one processor communicates with the communication interface and implements the method according to any one of claims 1 to 18 by using a logic circuit or by executing code instructions.