CLAIMS

What is claimed is:

1. A discontinuous reception control method, comprising:

performing, by a first terminal, a first operation during sidelink-based transmission, wherein the first operation comprises at least one of the following: the first terminal determines a status of whether to send a hybrid automatic repeat request HARQ feedback, and the first terminal decodes a data packet; and

determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception;

wherein before the performing, by a first terminal, a first operation, the method further comprises:

receiving, by the first terminal, sidelink control information SCI sent by a second terminal; wherein

the SCI is used to indicate, to the first terminal, at least one of the following:

that HARQ feedback is enabled, a negative-only acknowledgement is used, and a negative-positive acknowledgement is used;

the SCI indicates, to the first terminal, that HARQ feedback is enabled and use of the negative-positive acknowledgement, and the determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception comprises:

after the first terminal sends HARQ feedback to the second terminal, starting, by the first terminal, a first timer in timers for controlling sidelink discontinuous reception, wherein the HARQ feedback is positive feedback ACK or negative feedback NACK; and

in a case that the first timer expires and decoding of a data packet by the first terminal succeeds or fails, starting, by the first terminal, a second timer in timers for controlling sidelink discontinuous reception; wherein

during running of the first timer, the first terminal does not monitor a physical sidelink control channel PSCCH and/or a physical sidelink shared channel PSSCH; and

during running of the second timer, the first terminal monitors the PSCCH and/or the PSSCH.

2. A discontinuous reception control method, comprising:

performing, by a first terminal, a first operation during sidelink-based transmission, wherein the first operation comprises at least one of the following: the first terminal determines a status of whether to send a hybrid automatic repeat request HARQ feedback, and the first terminal decodes a data packet; and

determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception;

wherein before the performing, by a first terminal, a first operation, the method further comprises:

receiving, by the first terminal, sidelink control information SCI sent by a second terminal; wherein

the SCI is used to indicate, to the first terminal, at least one of the following:

that HARQ feedback is enabled, that a negative-only acknowledgement is used, and that a negative-positive acknowledgement is used;

the SCI indicates, to the first terminal, that HARQ feedback is enabled and/or use of the negative-positive acknowledgement, and the determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception comprises:

after the first terminal sends HARQ feedback to the second terminal, in a case that the HARQ feedback is NACK, starting, by the first terminal, a first timer in timers for controlling sidelink discontinuous reception, wherein the first terminal does not start the first timer in a case that the HARQ feedback is ACK; and

in a case that the first timer expires and decoding of a data packet by the first terminal succeeds or fails, starting, by the first terminal, a second timer in timers for controlling sidelink discontinuous reception; wherein

during running of the first timer, the first terminal does not monitor a PSCCH and/or a PSSCH; and during running of the second timer, the first terminal monitors the PSCCH and/or the PSSCH.

3. A discontinuous reception control method, comprising:

performing, by a first terminal, a first operation during sidelink-based transmission, wherein the first operation comprises at least one of the following: the first terminal determines a status of whether to send a hybrid automatic repeat request HARQ feedback, and the first terminal decodes a data packet; and

determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception;

wherein before the performing, by a first terminal, a first operation, the method further comprises:

receiving, by the first terminal, sidelink control information SCI sent by a second terminal; wherein

the SCI is used to indicate, to the first terminal, at least one of the following:

that HARQ feedback is enabled, that a negative-only acknowledgement is used, and that a negative-positive acknowledgement is used;

the SCI indicates, to the first terminal, that HARQ feedback is enabled and/or use of the negative-positive acknowledgement, and the determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception comprises:

after the first terminal sends HARQ feedback to the second terminal, starting, by the first terminal, a first timer in timers for controlling sidelink discontinuous reception, wherein the HARQ feedback is positive feedback ACK or negative feedback NACK; and

in a case that the first timer expires, starting, by the first terminal, a second timer in timers for controlling sidelink discontinuous reception; wherein

during running of the first timer, the first terminal does not monitor a PSCCH and/or a PSSCH; and during running of the second timer, the first terminal monitors the PSCCH and/or the PSSCH.

4. A discontinuous reception control method, comprising:

performing, by a first terminal, a first operation during sidelink-based transmission, wherein the first operation comprises at least one of the following: the first terminal

determines a status of whether to send a hybrid automatic repeat request HARQ feedback, and the first terminal decodes a data packet; and

determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception;

wherein before the performing, by a first terminal, a first operation, the method further comprises:

receiving, by the first terminal, sidelink control information SCI sent by a second terminal; wherein

the SCI is used to indicate, to the first terminal, at least one of the following:

that HARQ feedback is enabled, that a negative-only acknowledgement is used, and that a negative-positive acknowledgement is used;

the SCI indicates, to the first terminal, that HARQ feedback is enabled and/or use of the negative-positive acknowledgement, and the determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception comprises:

in a case that a duration of decoding a data packet exceeds a preset duration or decoding fails, starting, by the first terminal, a second timer in timers for controlling sidelink discontinuous reception; wherein

the preset duration comprises at least one of the following: a running duration of a third timer, a duration specified by a protocol, and a duration configured by a network-side device; and during running of the second timer, the first terminal monitors a PSCCH and/or PSSCH.

5. A discontinuous reception control method, comprising:

performing, by a first terminal, a first operation during sidelink-based transmission, wherein the first operation comprises at least one of the following: the first terminal determines a status of whether to send a hybrid automatic repeat request HARQ feedback, and the first terminal decodes a data packet; and

determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception;

wherein before the performing, by a first terminal, a first operation, the method further comprises:

receiving, by the first terminal, sidelink control information SCI sent by a second terminal; wherein

the SCI is used to indicate, to the first terminal, at least one of the following:

that HARQ feedback is enabled, that a negative-only acknowledgement is used, and that a negative-positive acknowledgement is used;

the SCI indicates, to the first terminal, that HARQ feedback is enabled and use of the negative-only acknowledgement, and the determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception comprises:

in a case that a distance between the first terminal and the second terminal is greater than or equal to a communication range requirement, determining, by the first terminal, not to send the HARQ feedback and not to start a first timer and a second timer in timers for controlling sidelink discontinuous reception; wherein

during running of the first timer, the first terminal does not monitor a PSCCH and/or a PSSCH; and during running of the second timer, the first terminal monitors the PSCCH and/or the PSSCH.

6. A discontinuous reception control method, comprising:

performing, by a first terminal, a first operation during sidelink-based transmission, wherein the first operation comprises at least one of the following: the first terminal determines a status of whether to send a hybrid automatic repeat request HARQ feedback, and the first terminal decodes a data packet; and

determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception;

wherein before the performing, by a first terminal, a first operation, the method further comprises:

receiving, by the first terminal, sidelink control information SCI sent by a second terminal; wherein

the SCI is used to indicate, to the first terminal, at least one of the following:

that HARQ feedback is enabled, that a negative-only acknowledgement is used, and that a negative-positive acknowledgement is used;

the SCI indicates, to the first terminal, that HARQ feedback is enabled and use of the negative-only acknowledgement, the determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception comprises:

in a case that a distance between the first terminal and the second terminal is greater than or equal to a communication range requirement, determining, by the first terminal, not to send the HARQ feedback, and starting a first timer in timers for controlling sidelink discontinuous reception; wherein

in a case that the first timer expires, starting, by the first terminal, a second timer in timers for controlling sidelink discontinuous reception; wherein

during running of the first timer, the first terminal does not monitor a PSCCH and/or a PSSCH; and during running of the second timer, the first terminal monitors the PSCCH and/or the PSSCH.

7. A discontinuous reception control method, comprising:

performing, by a first terminal, a first operation during sidelink-based transmission, wherein the first operation comprises at least one of the following: the first terminal determines a status of whether to send a hybrid automatic repeat request HARQ feedback, and the first terminal decodes a data packet; and

determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception;

wherein before the performing, by a first terminal, a first operation, the method further comprises:

receiving, by the first terminal, sidelink control information SCI sent by a second terminal; wherein

the SCI is used to indicate, to the first terminal, at least one of the following:

that HARQ feedback is enabled, that a negative-only acknowledgement is used, and that a negative-positive acknowledgement is used;

the SCI indicates, to the first terminal, that HARQ feedback is enabled and use of the negative-only acknowledgement, and the determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception comprises:

in a case that a distance between the first terminal and the second terminal is greater than or equal to a communication range requirement, after decoding of a data packet succeeds or fails and a HARQ feedback being NACK is sent, or after decoding of a data packet succeeds or fails and the first terminal determines not to send the HARQ feedback, starting, by the first terminal, a first timer in timers for controlling sidelink discontinuous reception; and

in a case that the first timer expires and decoding of a data packet by the first terminal succeeds or fails, starting, by the first terminal, a second timer in timers for controlling sidelink discontinuous reception; wherein

during running of the first timer, the first terminal does not monitor a PSCCH and/or a PSSCH; and during running of the second timer, the first terminal monitors the PSCCH and/or the PSSCH.

8. A discontinuous reception control method, comprising:

performing, by a first terminal, a first operation during sidelink-based transmission, wherein the first operation comprises at least one of the following: the first terminal determines a status of whether to send a hybrid automatic repeat request HARQ feedback, and the first terminal decodes a data packet; and

determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception;

wherein before the performing, by a first terminal, a first operation, the method further comprises:

receiving, by the first terminal, sidelink control information SCI sent by a second terminal; wherein

the SCI is used to indicate, to the first terminal, at least one of the following:

that HARQ feedback is enabled, that a negative-only acknowledgement is used, and that a negative-positive acknowledgement is used;

the SCI indicates, to the first terminal, that HARQ feedback is enabled and use of the negative-only acknowledgement, and the determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception comprises:

in a case that a duration of decoding a data packet corresponding to a HARQ process exceeds a preset duration and decoding fails, starting, by the first terminal, a second timer in timers for controlling sidelink discontinuous reception; wherein

the preset duration comprises at least one of the following: a running duration of a third timer, a duration specified by a protocol, and a duration configured by a network-side device; and during running of the second timer, the first terminal monitors a PSCCH and/or PSSCH.

9. A discontinuous reception control method, comprising:

performing, by a first terminal, a first operation during sidelink-based transmission, wherein the first operation comprises at least one of the following: the first terminal determines a status of whether to send a hybrid automatic repeat request HARQ feedback, and the first terminal decodes a data packet; and

determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception;

wherein before the performing, by a first terminal, a first operation, the method further comprises:

receiving, by the first terminal, sidelink control information SCI sent by a second terminal; wherein

the SCI is used to indicate, to the first terminal, at least one of the following:

that HARQ feedback is enabled, that a negative-only acknowledgement is used, and that a negative-positive acknowledgement is used;

the SCI indicates, to the first terminal, that HARQ feedback is enabled and use of the negative-only acknowledgement, and the determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception comprises:

in a case that it is determined, based on the SCI, that a distance between the first terminal and the second terminal is less than a communication range requirement, determining, by the first terminal, to send the HARQ feedback;

after the HARQ feedback is sent, starting, by the first terminal, a first timer in timers for controlling sidelink discontinuous reception; and

in a case that the first timer expires and decoding of a data packet by the first terminal fails, starting, by the first terminal, a second timer in timers for controlling sidelink discontinuous reception; wherein

during running of the first timer, the first terminal does not monitor a PSCCH and/or a PSSCH; and during running of the second timer, the first terminal monitors the PSCCH and/or the PSSCH.

10. A discontinuous reception control method, comprising:

performing, by a first terminal, a first operation during sidelink-based transmission, wherein the first operation comprises at least one of the following: the first terminal determines a status of whether to send a hybrid automatic repeat request HARQ feedback, and the first terminal decodes a data packet; and

determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception;

wherein the first operation further comprises: the first terminal determines whether physical sidelink shared channel PSSCH transmission has been performed, and the determining, by the first terminal based on an execution result of the first operation, whether to start a timer for controlling sidelink discontinuous reception comprises:

in a case that the first terminal determines that physical sidelink shared channel PSSCH transmission has been performed, starting, by the first terminal, a timer for controlling sidelink discontinuous reception.

11. The method according to claim 10, wherein a mode of the PSSCH transmission comprises one of the following:

performing transmission using a resource pool of a base station scheduling mode for resource allocation; and

performing transmission using a configuration grant or dynamic grant of a terminal autonomous mode for resource allocation.

12. A terminal, comprising a processor, a memory, and a program or instructions stored in the memory and capable of running on the processor, wherein when the program or instructions are executed by the processor, the steps of the discontinuous reception control method according to any one of claims 1 to 11 are implemented.

13. A readable storage medium, wherein the readable storage medium stores a program or instructions, and when the program or the instructions are executed by a processor, the steps of the discontinuous reception control method according to any one of claims 1 to 11 are implemented.