CLAIMS

What is claimed is:

1. A power control apparatus, comprising:

an acquiring module, configured to acquire a data transmission period and a silent period of user equipment UE;

a receiving module, configured to receive, in the silent period, data sent by the UE on a control channel at first power, wherein the first power is less than second power used by the UE for sending data on the control channel in the data transmission period; and

a sending module, configured to send a configuration instruction to the UE, wherein the configuration instruction is used to indicate the data transmission period and/or the silent period of the UE.

2. The apparatus according to claim 1, wherein the apparatus further comprises:

a first acquiring module, configured to acquire a first power control parameter required for maintaining synchronization with the UE, wherein transmit power corresponding to the first power control parameter is equal to the first power; and

a first sending module, configured to send a power control instruction to the UE according to the first power control parameter acquired by the first acquiring module, wherein the power control instruction is used to instruct the UE to send data at the first power in the silent period.

3. The apparatus according to claim 1, wherein the apparatus further comprises:

a second acquiring module, configured to acquire a second power control parameter, wherein the second power control parameter is a difference between a threshold and a power control parameter of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period, wherein transmit power corresponding to the second power control parameter is equal to the first power; and

a second sending module, configured to send a power control instruction to the UE according to the second power control parameter acquired by the second acquiring module, wherein the power control instruction is used to instruct the UE to send data at the first

power in the silent period.

4. The apparatus according to claim 1, wherein the apparatus further comprises:

a third acquiring module, configured to acquire a first power control parameter required for maintaining synchronization with the UE;

a fourth acquiring module, configured to acquire a second power control parameter, wherein the second power control parameter is a difference between a threshold and a power control parameter of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period, wherein the first power is equal to a maximum value between transmit power corresponding to the first power control parameter and transmit power corresponding to the second power control parameter; and

a third sending module, configured to send a power control instruction to the UE according to the first power control parameter acquired by the third acquiring module and the second power control parameter acquired by the fourth acquiring module, wherein the power control instruction is used to instruct the UE to send data at the first power in the silent period.

5. A power control apparatus, applied to user equipment UE, wherein the apparatus comprises:

an acquiring module, configured to acquire a data transmission period and a silent period;

a sending module, configured to send, on a control channel, data to a network side device by the UE at first power in the silent period, wherein the first power is less than second power used by the UE for sending data on the control channel in the data transmission period; and

a receiving module, configured to receive a configuration instruction sent by the network side device, wherein the acquiring module acquires the data transmission period and/or the silent period of the UE according to the configuration instruction.

6. The apparatus according to claim 5, wherein:

the receiving module is further configured to receive a power control instruction sent by the network side device; and

the sending module is further configured to send, according to the power control

instruction received by the receiving module, data to the network side device at the first power in the silent period.

7. The apparatus according to any one of claims 5 to 6, wherein the first power is transmit power corresponding to a first power control parameter required when the UE maintains synchronization with the network side device.

8. The apparatus according to any one of the claims 5 to 6, wherein the first power is transmit power corresponding to a second power control parameter, wherein the second power control parameter is a difference between a threshold and a power control parameter of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period.

9. The apparatus according to any one of claims 5 to 6, wherein the first power is a maximum value between transmit power corresponding to a first power control parameter and transmit power corresponding to a second power control parameter, wherein

the first power control parameter is a power control parameter required when the UE maintains synchronization with the network side device; and

the second power control parameter is a difference between a threshold and a power control parameter of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period.

10. A network side device, comprising a processor and a receiver, wherein

the processor is configured to acquire a data transmission period and a silent period of user equipment UE;

the processor is configured to control, in the silent period, the receiver to receive data sent by the UE on a control channel at first power, wherein the first power is less than second power used by the UE for sending data on the control channel in the data transmission period; and

the processor is configured to control the transmitter to send a configuration instruction to the UE, wherein the configuration instruction is used to indicate the data transmission period and/or the silent period of the UE.

11. The network side device according to claim 10, wherein:

the processor is configured to control the receiver to acquire a first power control parameter required for maintaining synchronization with the UE, wherein transmit power corresponding to the first power control parameter is equal to the first power; and

the processor is configured to control the transmitter to send, according to the first power control parameter, a power control instruction to the UE, wherein the power control instruction is used to instruct the UE to send data at the first power in the silent period.

12. The network side device according to claim 10, wherein:

the processor is configured to control the receiver to acquire a second power control parameter, wherein the second power control parameter is a difference between a threshold and a power control parameter of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period, wherein transmit power corresponding to the second power control parameter is equal to the first power; and

the processor is configured to control the transmitter to send, according to the second power control parameter, a power control instruction to the UE, wherein the power control instruction is used to instruct the UE to send data at the first power in the silent period.

13. The network side device according to claim 10, wherein:

the processor is configured to control the receiver to acquire a first power control parameter required for maintaining synchronization with the UE;

the processor is configured to control the receiver to acquire a second power control parameter, wherein the second power control parameter is a difference between a threshold and a power control parameter of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period, wherein the first power is equal to a maximum value between transmit power corresponding to the first power control parameter and transmit power corresponding to the second power control parameter; and

the processor is configured to control the transmitter to send, according to the first power control parameter and the second power control parameter, a power control

instruction to the UE, wherein the power control instruction is used to instruct the UE to send data at the first power in the silent period.

14. User equipment UE, comprising a processor and a transmitter, wherein

the processor is configured to control the receiver to acquire a data transmission period and a silent period;

the processor is configured to control, in the silent period, the transmitter to send, on a control channel, data to a network side device at first power, wherein the first power is less than second power used by the UE for sending data on the control channel in the data transmission period; and

the processor is configured to control the receiver to receive a configuration instruction sent by the network side device, wherein the configuration instruction is used to indicate the data transmission period and/or the silent period of the UE.

15. The user equipment according to claim 14, wherein:

the processor is configured to control the receiver to receive a power control instruction sent by the network side device; and

the processor is configured to control the transmitter to send, according to the power control instruction, data to the network side device at the first power in the silent period.

16. The user equipment according to any one of claims 14 to 15, wherein the first power is transmit power corresponding to a first power control parameter required when the UE maintains synchronization with the network side device.

17. The user equipment according to any one of the claims 14 to 15, wherein the first power is transmit power corresponding to a second power control parameter, wherein the second power control parameter is a difference between a threshold and a power control parameter of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period.

18. The user equipment according to any one of claims 14 to 15, wherein the first power is a maximum value between transmit power corresponding to a first power control parameter and transmit power corresponding to a second power control parameter, wherein

the first power control parameter is a power control parameter required when the UE maintains synchronization with the network side device; and

the second power control parameter is a difference between a threshold and a power control parameter of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period.

19. A power control method, comprising:

acquiring a data transmission period and a silent period of user equipment UE;

receiving, in the silent period, data sent by the UE on a control channel at first power, wherein the first power is less than second power used by the UE for sending data on the control channel in the data transmission period; and

sending a configuration instruction to the UE, wherein the configuration instruction is used to indicate the data transmission period and/or the silent period of the UE.

20. The method according to claim 19, wherein the method further comprises:

acquiring a first power control parameter required for maintaining synchronization with the UE, wherein transmit power corresponding to the first power control parameter is equal to the first power; and

sending a power control instruction to the UE according to the first power control parameter, wherein the power control instruction is used to instruct the UE to send data at the first power in the silent period.

21. The method according to claim 19, wherein the method further comprises:

acquiring a second power control parameter, wherein the second power control parameter is a difference between a threshold and a power control parameter of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period, wherein transmit power corresponding to the second power control parameter is equal to the first power; and

sending a power control instruction to the UE according to the second power control parameter, wherein the power control instruction is used to instruct the UE to send data at the first power in the silent period.

22. The method according to claim 19, wherein the method further comprises:

acquiring a first power control parameter required for maintaining synchronization

with the UE;

acquiring a second power control parameter, wherein the second power control parameter is a difference between a threshold and a power control parameter of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period, wherein the first power is equal to a maximum value between transmit power corresponding to the first power control parameter and transmit power corresponding to the second power control parameter; and

sending a power control instruction to the UE according to the first power control parameter and the second power control parameter, wherein the power control instruction is used to instruct the UE to send data at the first power in the silent period.

23. A power control method, comprising:

acquiring, by user equipment UE, a data transmission period and a silent period;

sending, by the UE on a control channel, data to a network side device at first power in the silent period, wherein the first power is less than second power used by the UE for sending data on the control channel in the data transmission period; and

receiving, by the UE, a configuration instruction sent by the network side device, wherein the configuration instruction is used to indicate the data transmission period and/or the silent period of the UE.

24. The method according to claim 23, wherein the method further comprises:

receiving, by the UE, a power control instruction sent by the network side device; and

the sending, by the UE on a control channel, data to a network side device at first power comprises:

sending, by the UE according to the power control instruction, the data to the network side device at the first power in the silent period.

25. The method according to any one of claims 23 to 24, wherein the first power is transmit power corresponding to a first power control parameter required when the UE maintains synchronization with the network side device.

26. The method according to any one of the claims 23 to 24, wherein the first power is transmit power corresponding to a second power control parameter, wherein the second power control parameter is a difference between a threshold and a power control parameter

of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period.

27. The method according to any one of claims 23 to 24, wherein the first power is a maximum value between transmit power corresponding to a first power control parameter and transmit power corresponding to a second power control parameter, wherein

the first power control parameter is a power control parameter required when the UE maintains synchronization with the network side device; and

the second power control parameter is a difference between a threshold and a power control parameter of the control channel of the UE in the data transmission period, and the threshold is a maximum empirical threshold between the power control parameter of the control channel of the UE in the data transmission period and a power control parameter of the control channel of the UE in the silent period.