CLAIMS

What is claimed is:

1. A feedback information transmission method, applied to a receive terminal and comprising:

obtaining information about a feedback channel format, and generating a feedback channel according to the information about the feedback channel format, wherein the feedback channel format employs a sequence form; and

sending feedback information to a transmit terminal through the feedback channel;

wherein the information about the feedback channel format comprises N, and the generating a feedback channel comprises:

generating a channel sequence that occupies N physical resource blocks PRBs, wherein N is specified by a protocol or configured or preconfigured by a network side device, and N is an integer greater than or equal to 1; and

mapping the channel sequence onto resource elements REs, and/or

wherein the feedback channel format employs frequency division multiplexing, and frequency division multiplexing information and a frequency division multiplexing manner of the feedback channel format are specified by the protocol or configured or preconfigured by the network side device, wherein

the frequency division multiplexing information comprises at least one of the following:

a start point of the feedback channel format in frequency domain;

an end point of the feedback channel format in frequency domain; and

a quantity of such feedback channel formats in frequency domain; and

the frequency division multiplexing manner comprises at least one of the following:

the feedback channel format appears continuously in frequency domain; and

the feedback channel format appears with a gap in frequency domain, and/or

wherein at least one of the following uses a same feedback channel format:

at least one sub-channel;

one resource pool;

at least one subcarrier spacing;

at least one frequency band; and

at least one carrier,

wherein the information about the feedback channel format further comprises M, the channel sequence comprises M sub-sequences, and the generating a channel sequence comprises at least one of the following:

forming the channel sequence by using M correlated or uncorrelated different sequences;

concatenating sub-sequences to obtain the channel sequence; and

interleaving sub-sequences to obtain the channel sequence, wherein

M is an integer greater than or equal to 1, M is specified by the protocol or configured or preconfigured by the network side device, a length of the sub-sequence is specified by the protocol or configured or preconfigured by the network side device, and a type of the sub-sequence is specified by the protocol or configured or preconfigured by the network side device.

2. The feedback information transmission method according to claim 1, wherein the factor is an orthogonal cover code, and a length of the orthogonal cover code is specified by the protocol or configured or preconfigured by the network side device.

3. The feedback information transmission method according to claim 1, wherein in the case of interleaving sub-sequences to obtain the channel sequence, a quantity of sub-sequences that are interleaved is specified by the protocol or configured or preconfigured by the network side device.

4. The feedback information transmission method according to claim 1, wherein the mapping the channel sequence onto resource elements comprises:

mapping the channel sequence onto resource elements in a comb manner or through continuous mapping.

5. The feedback information transmission method according to claim 4, wherein in the case of mapping the channel sequence onto resource elements in a comb manner, a comb type is specified by the protocol or configured or preconfigured by the network side device, and the comb type comprises at least one of the following: a quantity of REs for continuous mapping and a gap between REs for discontinuous mapping.

6. The feedback information transmission method according to claim 1, wherein a quantity of states of the channel sequence is any one of the following:

the quantity of states of the channel sequence is equal to a sum of quantities of states of sub-sequences;

the quantity of states of the channel sequence is equal to a product of quantities of states of sub-sequences;

the quantity of states of the channel sequence is equal to a quantity of states of a sub-sequence; and

in the case of multiplying at least one sub-sequence by a factor to obtain the channel sequence, the quantity of states of the channel sequence is equal to a product of a quantity of states of the sub-sequence(s) and a quantity of states of the factor; wherein

the states of the sub-sequence are specified by the protocol or configured or preconfigured by the network side device, and the states of the factor are specified by the protocol or configured or preconfigured by the network side device.

7. The feedback information transmission method according to claim 6, wherein

a quantity of information bits carried in each channel resource and a state of an occupied channel sequence are specified by the protocol or configured or preconfigured by the network side device.

8. The feedback information transmission method according to claim 1, further comprising:

scrambling the feedback channel by using a preset identifier, wherein the preset identifier is at least one of the following:

at least a part of a terminal identifier of a receive terminal;

at least a part of a terminal identifier of a transmit terminal;

at least a part of a group identifier of a receive terminal; and

at least a part of an in-group identifier of a receive terminal.

9. The feedback information transmission method according to claim 1, wherein when a plurality of sub-channels use a same feedback channel format, the plurality of sub-channels are a plurality of consecutive sub-channels, and a start point of the plurality of sub-channels is specified by the protocol or configured or preconfigured by the network side device.

10. A feedback information transmission apparatus, applied to a receive terminal and comprising:

a generation module, configured to obtain information about a feedback channel format, and generate a feedback channel according to the information about the feedback channel format, wherein the feedback channel format employs a sequence form; and

a sending module, configured to send feedback information to a transmit terminal through the feedback channel,

wherein the information about the feedback channel format comprises N, and the generation module is further configured to:

generate a channel sequence that occupies N physical resource blocks PRBs, wherein N is specified by a protocol or configured or preconfigured by a network side device, and N is an integer greater than or equal to 1; and

map the channel sequence onto resource elements REs, and/or

wherein the feedback channel format employs frequency division multiplexing, and frequency division multiplexing information and a frequency division multiplexing manner of the feedback channel format are specified by the protocol or configured or preconfigured by the network side device, wherein

the frequency division multiplexing information comprises at least one of the following:

a start point of the feedback channel format in frequency domain;

an end point of the feedback channel format in frequency domain; and

a quantity of such feedback channel formats in frequency domain; and

the frequency division multiplexing manner comprises at least one of the following:

the feedback channel format appears continuously in frequency domain; and

the feedback channel format appears with a gap in frequency domain, and/or

wherein at least one of the following uses a same feedback channel format:

at least one sub-channel;

one resource pool;

at least one subcarrier spacing;

at least one frequency band; and

at least one carrier,

wherein the information about the feedback channel format further includes M, the channel sequence includes M sub-sequences, and the generation module is specifically configured to perform at least one of the following:

forming the channel sequence by using M correlated or uncorrelated different sequences;

concatenating sub-sequences to obtain the channel sequence; and

interleaving sub-sequences to obtain the channel sequence, where

M is an integer greater than or equal to 1, M is specified by the protocol or configured or preconfigured by the network side device, a length of the sub-sequence is specified by the protocol or configured or preconfigured by the network side device, and a type of the sub-sequence is specified by the protocol or configured or preconfigured by the network side device.

11. The feedback information transmission apparatus according to claim 10, wherein a quantity of states of the channel sequence is any one of the following:

the quantity of states of the channel sequence is equal to a sum of quantities of states of sub-sequences;

the quantity of states of the channel sequence is equal to a product of quantities of states of sub-sequences;

the quantity of states of the channel sequence is equal to a quantity of states of a sub-sequence; and

the information about the feedback channel format further comprises M, the channel sequence comprises M sub-sequences, and the generation module is configured to perform: multiplying at least one sub-sequence by a factor to obtain the channel sequence,

in the case of multiplying at least one sub-sequence by a factor to obtain the channel sequence, the quantity of states of the channel sequence is equal to a product of a quantity of states of the sub-sequence(s) and a quantity of states of the factor; wherein

the states of the sub-sequence are specified by the protocol or configured or preconfigured by the network side device, and the states of the factor are specified by the protocol or configured or preconfigured by the network side device.

12. The feedback information transmission apparatus according to claim 11, wherein

a quantity of information bits carried in each channel resource and a state of an occupied channel sequence are specified by the protocol or configured or preconfigured by the network side device.

13. The feedback information transmission apparatus according to claim 10, further comprising:

a scrambling module, configured to scramble the feedback channel by using a preset identifier, wherein the preset identifier is at least one of the following:

at least a part of a terminal identifier of a receive terminal;

at least a part of a terminal identifier of a transmit terminal;

at least a part of a group identifier of a receive terminal; and

at least a part of an in-group identifier of a receive terminal.

14. A terminal, comprising a processor, a memory, and a computer program that is stored in the memory and capable of running on the processor, wherein when the computer program is executed by the processor, the steps of the feedback information transmission method according to any one of claims 1 to 9 are implemented.

15. A computer-readable storage medium, wherein the computer-readable storage medium stores a computer program, and when the computer program is executed by a processor, the steps of the feedback information transmission method according to any one of claims 1 to 9 are implemented.