CLAIMS

1. A communication method, wherein the method comprises:

generating, by a first device, first signaling, wherein the first signaling comprises information of a modulation and coding scheme (MCS) pattern, the information of MCS pattern indicates an order of a modulation scheme used for each of a plurality of spatial streams;

sending, by the first device, the first signaling to the second device.

2. The method according to claim 1, wherein the information of MCS pattern indicates the order of the modulation scheme used for each of the plurality of spatial streams, comprising:

the information of MCS pattern indicates a plurality of elements, and each element corresponds to one of the plurality of spatial streams;

an element is determined based on an order of a modulation scheme used for a spatial stream corresponding to the element and an order of a modulation scheme used for a reference spatial stream, wherein the reference spatial stream is one of the plurality of spatial streams.

3. The method according to claim 2, wherein the element is determined based on the order of the modulation scheme used for the spatial stream corresponding to the element and the order of the modulation scheme used for the reference spatial stream, comprising:

the element is a difference between the order of the modulation scheme used for the spatial stream corresponding to the element and the order of the modulation scheme used for the reference spatial stream.

4. The method according to claim 2, a mapping relationship exists between a value of the element, a coded bit of the modulation scheme used for the spatial stream corresponding to the element, and a coded bit of the modulation scheme used for the reference spatial stream:

$$A = \lceil (m - n) / 2 \rceil$$

Wherein A is the value of the element, m is the coded bit of the modulation scheme used for the spatial stream corresponding to the element, n is the coded bit of the modulation scheme used for the reference spatial stream, and $\lceil \ \rceil$ is a round-up operation.

5. The method according to claim 1, wherein the method further comprises:

receiving, by the first device, a channel measurement result from the second device, wherein the channel measurement result indicates channel quality information of a part or all of the plurality of spatial streams; and

determining, by the first device, the MCS pattern based on the channel measurement result.

6. The method according to claim 1, the first signaling further comprises information of a target MCS, the information of the target MCS is determined from a plurality of candidate MCSs,

and information of the target MCS comprises a modulation scheme corresponding to each of a plurality of spatial streams between the first device and a second device.

7. The method according to claim 5, wherein the channel measurement result comprises channel quality information of each of the plurality of spatial streams; or

the channel measurement result comprises the channel quality information of the part of the plurality of spatial streams; or

the channel measurement result comprises channel quality information of the reference spatial stream in the plurality of spatial streams and information about a difference between channel quality information of different spatial streams in the plurality of spatial streams.

8. The method according to claim 5, wherein determining, by the first device, the MCS pattern based on the channel measurement result comprises:

determining, by the first device based on the channel measurement result, the channel quality information corresponding to each spatial stream;

for each spatial stream, determining, by the first device based on the channel quality information corresponding to the spatial stream and the channel quality information corresponding to the reference spatial stream in the plurality of spatial streams, an element corresponding to the spatial stream, wherein the reference spatial stream is a spatial stream with a largest or smallest sequence number in the plurality of spatial streams, or a sequence number of the reference spatial stream is adjacent to a sequence number of the spatial stream; and

determining, by the first device, the MCS pattern based on the determined element corresponding to each spatial stream.

9. The method according to claim 5, wherein receiving, by the first device, the channel measurement result from the second device comprises:

receiving, by the first device, the channel measurement result sent by the second device by using the acknowledgment frame or the management frame; or

sending, by the first device to the second device, a trigger (Trigger) frame comprising channel feedback indication information, and receiving the channel measurement result sent by the second device; or

receiving, by the first device, the channel measurement result sent by the second device in a sounding (sounding) phase.

10. A communication method, wherein the method comprises:

receiving, by a second device, first signaling, wherein the first signaling comprises information of a modulation and coding scheme (MCS) pattern, the information of MCS pattern indicates an order of a modulation scheme used for each of a plurality of spatial streams; and

decoding, by the second device, the first signaling based on the information of the MCS pattern to obtain the order of the modulation scheme used for each of the plurality of spatial streams .

11. The method according to claim 10, wherein the information of MCS pattern indicates the order of the modulation scheme used for each of the plurality of spatial streams, comprising:

the information of MCS pattern indicates a plurality of elements, and each element corresponds to one of the plurality of spatial streams;

an element is determined based on an order of a modulation scheme used for a spatial stream corresponding to the element and an order of a modulation scheme used for a reference spatial stream, wherein the reference spatial stream is one of the plurality of spatial streams.

12. The method according to claim 11, wherein the element is determined based on the order of the modulation scheme used for the spatial stream corresponding to the element and the order of the modulation scheme used for the reference spatial stream, comprising:

the element is a difference between the order of the modulation scheme used for the spatial stream corresponding to the element and the order of the modulation scheme used for the reference spatial stream.

13. The method according to claim 11, a mapping relationship exists between a value of the element, a coded bit of the modulation scheme used for the spatial stream corresponding to the element, and a coded bit of the modulation scheme used for the reference spatial stream:

$$A = \lceil (m - n) / 2 \rceil$$

Wherein A is the value of the element, m is the coded bit of the modulation scheme used for the spatial stream corresponding to the element, n is the coded bit of the modulation scheme used for the reference spatial stream, and $\lceil \ \rceil$ is a round-up operation.

14. The method according to claim 11, wherein the method further comprises:

sending, by the second device, a channel measurement result to the first device, wherein the channel measurement result indicates channel quality information of a part of or all of the plurality of spatial streams, and the channel measurement result is used to determine the MCS pattern.

15. The method according to claim 11, the first signaling further comprises information of a target MCS, the information of the target MCS is determined from a plurality of candidate MCSs, and information of the target MCS comprises a modulation scheme corresponding to each of a

plurality of spatial streams between the first device and a second device.

16. The method according to claim 11, wherein the method further comprises:

determining, by the second device, the MCS pattern based on channel quality information corresponding to each spatial stream; and

sending, by the second device, pattern indication information to the first device, wherein the pattern indication information indicates the MCS pattern.

17. The method according to claim 16, wherein determining, by the second device, the MCS pattern based on the channel quality information corresponding to each spatial stream comprises:

for each spatial stream, determining, by the second device based on the channel quality information corresponding to the spatial stream and channel quality information corresponding to the reference spatial stream in the plurality of spatial streams, an element corresponding to the spatial stream, wherein the reference spatial stream is a spatial stream with a largest or smallest sequence number in the plurality of spatial streams, or a sequence number of the reference spatial stream is adjacent to a sequence number of the spatial stream; and

determining the MCS pattern based on the determined element corresponding to each spatial stream.

18. The method according to claim 11, wherein the method further comprises:

sending, by the second device, a channel measurement result to the first device, wherein the channel measurement result indicates channel quality information of a part of or all of the plurality of spatial streams, and the channel measurement result is used to determine the MCS pattern.

19. A first device, configured to perform the method according to any one of claims 1 to 9.

20. A second device, configured to perform the method according to any one of claims 10 to 18.