

CLAIMS

What is claimed is:

1. A cyclic shift diversity–based communication method, wherein the method comprises:

generating, by a first communication apparatus, a physical layer protocol data unit (PPDU),

wherein the PPDU comprises a non-legacy short training field (STF), a non-legacy long training field (LTF), and a data field; cyclic shift is performed on at least the non-legacy STF among the non-legacy STF, the non-legacy LTF, and the data field based on a cyclic shift diversity (CSD); the CSD comprises L elements, and L is a maximum number of spatial streams supported by the first communication apparatus; and the maximum number of spatial streams is greater than 8; and

sending, by the first communication apparatus, the PPDU to a second communication apparatus;

wherein L is equal to 16, and the CSD comprises: 0, –400, –200, –600, –350, –650, –100, –750, –250, –475, –125, –450, –75, –175, –725, and –625; or

wherein L is equal to 16, and the CSD comprises: 0, –425, –200, –650, –475, –300, –625, –225, –150, –525, –50, –25, –375, –400, –550, and –325.

2. The method according to claim 1, wherein the sending, by the first communication apparatus, the PPDU to a second communication apparatus comprises:

sending, by the first communication apparatus, the PPDU to the second communication apparatus over K spatial streams, wherein K is a positive integer less than or equal to L.

3. The method according to claim 2, wherein the non-legacy STF, the non-legacy LTF, and the data field are processed based on the first K elements in the CSD.

4. A cyclic shift diversity–based communication method, wherein the method comprises:

receiving, by a second communication apparatus, a physical layer protocol data unit (PPDU) from a first communication apparatus, wherein the PPDU comprises a non-legacy short training field (STF), a non-legacy long training field (LTF), and a data field; at least the non-legacy STF among the non-legacy STF, the non-legacy LTF, and the data field is obtained after cyclic shift is performed based on a cyclic shift diversity (CSD); the CSD comprises L elements, and L is a maximum number of spatial streams supported by the first communication apparatus; and the maximum number of spatial streams is greater than 8; and

performing, by the second communication apparatus, processing based on the PPDU;

wherein L is equal to 16, and the CSD comprises: 0, –400, –200, –600, –350, –650, –100, –750, –250, –475, –125, –450, –75, –175, –725, and –625; or

wherein L is equal to 16, and the CSD comprises: 0, –425, –200, –650, –475, –300, –625, –225, –150, –525, –50, –25, –375, –400, –550, and –325.

5. The method according to claim 6, wherein the non-legacy STF, the non-legacy LTF, and the data field are obtained through processing based on the first K elements in the CSD.

6. A first communication apparatus, wherein the first communication apparatus comprises a processor; and

5 the processor is configured to execute computer-executable instructions stored in a memory, so that the first communication apparatus performs the method according to any one of claims 1 to 3.

7. A second communication apparatus, wherein the second communication apparatus comprises a processor; and

10 the processor is configured to execute computer-executable instructions stored in a memory, so that the second communication apparatus performs the method according to claim 4 or 5.

8. A computer-readable storage medium, comprising instructions, wherein when the instructions are run on a communication apparatus, the communication apparatus is enabled to perform the method according to any one of claims 1 to 3, or the communication apparatus is
15 enabled to perform the method according to claim 4 or 5.

9. A communication system, wherein the communication system comprises the first communication apparatus according to claim 6 and the second communication apparatus according to claim 7.

10. A computer program product comprising instructions, wherein when the instructions are
20 run on a computer, the computer is enabled to perform the method according to any one of claims 1 to 3 or claim 4 or 5.