CLAIMS

1. A communication method, wherein the method comprises:

generating a transmission frame, wherein the transmission frame comprises a ranging sequence field, the ranging sequence field comprises a plurality of ranging subsequences, each of the plurality of ranging subsequences comprises a plurality of ranging symbols, and the ranging sequence field is used to perform channel impulse response CIR estimation, wherein

a first ranging symbol in the plurality of ranging symbols is generated based on a first original code sequence in an original code sequence set, the original code sequence set comprises a plurality of original code sequences, and the first original code sequence is randomly obtained from the original code sequence set in a symmetric encryption manner;

sending the transmission frame.

2. The method according to claim 1, wherein a second ranging symbol in the plurality of ranging symbols is generated based on a second original code sequence in the original code sequence set, and the first original code sequence is the same as the second original code sequence.

3. The method according to claim 1, wherein a second ranging symbol in the plurality of ranging symbols is generated based on a second original code sequence in the original code sequence set, and the first original code sequence is different from the second original code sequence.

4. The method according to any one of claims 1 to 3, wherein the plurality of ranging subsequences comprise a first ranging subsequence and a second ranging subsequence, the first ranging subsequence comprises N ranging symbols, the second ranging subsequence comprises N ranging symbols, an ith ranging symbol in the first ranging subsequence is the same as an ith ranging symbol in the second ranging subsequence, and $1 \leq i \leq N$.

5. The method according to any one of claims 1 to 3, wherein the plurality of ranging subsequences comprise a first ranging subsequence and a second ranging subsequence, the first ranging subsequence comprises N ranging symbols, the second ranging subsequence comprises N ranging symbols, an ith ranging symbol in the first ranging subsequence is different from an ith ranging symbol in the second ranging subsequence, and $1 \leq i \leq N$.

6. The method according to any one of claims 1 to 5, wherein the plurality of original code sequences are one-to-one mapped to a plurality of sequence identifiers, the original code is determined based on the sequence identifier, the first sequence identifier is determined by the symmetric encryption manner.

7. A communication method, wherein the method comprises:

receiving a transmission frame, wherein the transmission frame comprises a ranging sequence field, the ranging sequence field comprises a plurality of ranging subsequences, and each of the plurality of ranging subsequences comprises a plurality of ranging symbols; and

performing channel impulse response CIR estimation by using a first original code sequence and a first ranging symbol in the plurality of ranging symbols, wherein the first original code sequence is randomly obtained from an original code sequence set in a symmetric encryption manner, and the original code sequence set comprises a plurality of original code sequences.

8. The method according to claim 7, wherein a second ranging symbol in the plurality of ranging symbols is generated based on a second original code sequence in the original code sequence set, and the first original code sequence is the same as the second original code sequence.

9. The method according to claim 7, wherein a second ranging symbol in the plurality of ranging symbols is generated based on a second original code sequence in the original code sequence set, and the first original code sequence is different from the second original code sequence.

10. The method according to any one of claims 7 to 9, wherein the plurality of ranging subsequences comprise a first ranging subsequence and a second ranging subsequence, the first ranging subsequence comprises N ranging symbols, the second ranging subsequence comprises N ranging symbols, an ith ranging symbol in the first ranging subsequence is the same as an ith ranging symbol in the second ranging subsequence, and $1 \leq i \leq N$.

11. The method according to any one of claims 7 to 9, wherein the plurality of ranging subsequences comprise a first ranging subsequence and a second ranging subsequence, the first ranging subsequence comprises N ranging symbols, the second ranging subsequence comprises N ranging symbols, an ith ranging symbol in the first ranging subsequence is different from an ith ranging symbol in the second ranging subsequence, and $1 \leq i \leq N$.

12. The method according to any one of claims 7 to 11, wherein the plurality of original code sequences are one-to-one mapped to a plurality of sequence identifiers, the original code is determined based on the sequence identifier, the first sequence identifier is determined by the symmetric encryption manner.

13. A communication apparatus, wherein the apparatus comprises:

one or more processors; and

a memory, configured to store one or more computer programs or instructions, wherein

when the one or more computer programs or instructions are executed by the one or more processors, the one or more processors are caused to implement the method according to any one of claims 1 to 6 or the method according to any one of claims 7 to 12.

14. A computer-readable storage medium, wherein

the computer-readable storage medium stores program code, and when the program code is executed by a processor, the method according to any one of claims 1 to 6 or the method according to any one of claims 7 to 12 is implemented.

15. A computer program product, wherein the computer program product comprises instructions, and when the computer program product runs on a computer, the computer is caused to implement the method according to any one of claims 1 to 6 or the method according to any one of claims 7 to 12.