What is claimed is:

1. A coding method, applied to a first communications device, wherein the method comprises:

obtaining a first information bit sequence;

determining a first frozen bit sequence based on a probability distribution value P_1 of the first information bit sequence;

determining a check bit sequence based on a second information bit sequence, wherein the second information bit sequence is the first information bit sequence or a sequence obtained after a pre-transformation operation is performed on the first information bit sequence;

obtaining a first bit sequence based on the second information bit sequence, the check bit sequence, and the first frozen bit sequence, wherein the first bit sequence comprises bits in the second information bit sequence, bits in the check bit sequence, and bits in the first frozen bit sequence;

performing polar coding on the first bit sequence to obtain a second bit sequence; and

outputting the second bit sequence.

2. The method according to claim 1, wherein

if the probability distribution value P_1 is not equiprobable distribution, the second information bit sequence is the sequence obtained after the pre-transformation operation is performed on the first information bit sequence; or

if the probability distribution value P_1 is equiprobable distribution, the second information bit sequence is the first information bit sequence.

3. The method according to claim 2, wherein if $|P_1 - 0.5| \leq \in$, the probability distribution value P_1 is equiprobable distribution, wherein $\in$ is a preset value.

4. The method according to any one of claims 1 to 3, wherein check bit locations in the first bit sequence are bit locations corresponding to rows whose sums are 1 in **G**(a), **G**(a) is a matrix consisting of rows and columns in a set a in a polar matrix **G**, the polar matrix **G** is a polar matrix used for the polar coding, the set a is an information bit set, and the information bit set comprises information bit locations and the check bit locations in the first bit sequence.

5. The method according to any one of claims 1 to 4, wherein at least one check bit in the check bit sequence is located in the bits comprised in the second information bit sequence.

6. The method according to any one of claims 1 to 5, wherein the determining a first frozen bit sequence based on a probability distribution value P_1 of the first information bit sequence comprises:

selecting a probability distribution value P_0 in a probability distribution value set **P** based on the probability distribution value P_1 of the first information bit sequence, wherein the probability distribution value P_0 is a probability distribution value closest to the probability distribution value P_1 in the probability distribution value set **P**, and one probability distribution value in the probability distribution value set **P** corresponds to one frozen bit sequence mapping manner; and

determining the first frozen bit sequence based on a frozen bit sequence mapping manner corresponding to the probability distribution value P_0.

7. The method according to claim 6, wherein the first frozen bit sequence is determined based on a basic sequence corresponding to the probability distribution value P_0, and the basic sequence is determined based on a quantity of probability distribution values comprised in the probability distribution value set **P**.

8. The method according to claim 6, wherein the first frozen bit sequence is determined based on an m-sequence, a Gold sequence, or a pseudo-random sequence corresponding to the probability distribution value P_0.

9. The method according to any one of claims 1 to 8, wherein the method further comprises:

sending a probability distribution reference value range or a probability distribution reference value to a second communications device every N information bit sequences, wherein N is an integer greater than 1.

10. The method according to any one of claims 1 to 9, wherein the check bits comprise cyclic redundancy check CRC bits and/or parity check PC bits.

11. A decoding method, applied to a second communications device, wherein the method comprises:

step 1: obtaining a to-be-decoded sequence;

step 2: setting i=1;

step 3: decoding the to-be-decoded sequence based on an i^{th} probability distribution value in a probability distribution value set **P** and a frozen bit sequence corresponding to the i^{th} probability distribution value, to obtain a third bit sequence corresponding to the i^{th} probability distribution value, wherein the third bit sequence comprises bits in a third information bit sequence, check bits, and bits in the frozen bit sequence corresponding to the i^{th} probability distribution value;

step 4: checking the third information bit sequence;

step 5: if the check on the third information bit sequence succeeds, obtaining a first information bit sequence based on the third information bit sequence, and stopping decoding, wherein the first information bit sequence is the third information bit sequence or the first information bit sequence is a sequence obtained after polar coding is performed on the third

information bit sequence;

step 6: if the check on the third information bit sequence fails and i is less than x, setting i=i+1, and returning to step 3, wherein x is a quantity of probability distribution values comprised in the probability distribution value set **P**; and

step 7: if the check on the third information bit sequence fails and i is equal to x:

stopping decoding; or

obtaining a fourth information bit sequence based on a target information bit sequence, and stopping decoding, wherein the target information bit sequence is one of x third information bit sequences corresponding to the probability distribution value set **P**, and the fourth information bit sequence is the target information bit sequence or a sequence obtained after polar coding is performed on the target information bit sequence.

12. The method according to claim 11, wherein

if the i^{th} probability distribution value is not equiprobable distribution, the first information bit sequence is the sequence obtained after polar coding is performed on the third information bit sequence; or

if the i^{th} probability distribution value is equiprobable distribution, the first information bit sequence is the third information bit sequence.

13. The method according to claim 12, wherein if $\left|P_{i,r} - 0.5\right| \leq \in$, the i^{th} probability distribution value is equiprobable distribution, wherein $\in$ is a preset value, and $P_{i,r}$ is the i^{th} probability distribution value.

14. The method according to any one of claims 11 to 13, wherein a decoding order of probability distribution values in the probability distribution value set **P** is determined based on information entropies corresponding to the probability distribution values in the probability distribution value set **P**.

15. The method according to claim 14, wherein an information entropy corresponding to the i^{th} probability distribution value is greater than or equal to an information entropy corresponding to an $(i+1)^{th}$ probability distribution value.