CLAIMS

What is claimed is:

1. A precoding matrix indication method, comprising:

generating indication information (202), wherein the indication information indicates $K^{NZ}-v$ non-zero weighting coefficients, the $K^{NZ}-v$ non-zero weighting coefficients belong to K^{NZ} non-zero weighting coefficients, v is a quantity of transport layers, and the K^{NZ} non-zero weighting coefficients are used to construct a precoding matrix, wherein:

when a first preset condition is met, the indication information indicates that a group 1 comprises $\lceil K^{NZ}/2 \rceil - v$ first-type parameters, wherein the first preset condition comprises the following condition: $\lceil K^{NZ}/2 \rceil - v > 0$; or

when a second preset condition is met, the indication information indicates that a group 2 comprises $K^{NZ}-v$ first-type parameters, wherein the second preset condition comprises the following condition: $\lceil K^{NZ}/2 \rceil - v \le 0$; and

sending (204) the indication information.

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

when the first preset condition is met, the indication information further indicates that the group 2 comprises remaining first-type parameters that are in the $K^{NZ}-v$ first-type parameters and that are other than the $\lceil K^{NZ}/2 \rceil - v$ first-type parameters.

3. The method according to claim 1 or 2, wherein each of the first-type parameters comprises an amplitude and a phase.

4. A precoding matrix indication method, comprising:

receiving (302) indication information, wherein the indication information indicates $K^{NZ}-v$ non-zero weighting coefficients, the $K^{NZ}-v$ non-zero weighting coefficients belong to K^{NZ} non-zero weighting coefficients, v is a quantity of transport layers, and the K^{NZ} non-zero weighting coefficients are used to construct a precoding matrix, wherein:

when a first preset condition is met, the indication information indicates that a group 1 comprises $\lceil K^{NZ}/2 \rceil - v$ first-type parameters, wherein the first preset condition comprises the following condition: $\lceil K^{NZ}/2 \rceil - v > 0$; or

when a second preset condition is met, the indication information indicates that a group 2 comprises $K^{NZ}-v$ first-type parameters, wherein the second preset condition comprises the following condition: $\lceil K^{NZ}/2\rceil - v \le 0$; and

determining (304) the $K^{NZ}-v$ non-zero weighting coefficients based on the indication information.

5. The method according to any claim 4, wherein the method comprises:

when the first preset condition is met, the indication information further indicates that the group 2 comprises remaining first-type parameters that are in the $K^{NZ}-v$ first-type parameters and that are other than the $\lceil K^{NZ}/2\rceil - v$ first-type parameters.

6. The method according to claim 4 or 5, wherein each of the first-type parameters comprises an amplitude and a phase.

7. A terminal device, comprising:

a processing module (402), configured to generate indication information, wherein the indication information indicates $K^{NZ}-v$ non-zero weighting coefficients, the $K^{NZ}-v$ non-zero weighting coefficients belong to K^{NZ} non-zero weighting coefficients, v is a quantity of transport layers, and the K^{NZ} non-zero weighting coefficients are used to construct a precoding matrix, wherein:

when a first preset condition is met, the indication information indicates that a group 1 comprises $\lceil K^{NZ}/2\rceil - v$ first-type parameters, wherein the first preset condition comprises the following condition: $\lceil K^{NZ}/2\rceil - v > 0$; or

when a second preset condition is met, the indication information indicates that a group 2 comprises $K^{NZ}-v$ first-type parameters, wherein the second preset condition comprises the following condition: $\lceil K^{NZ}/2\rceil - v \le 0$; and

a communication module (404), configured to send the indication information.

8. The terminal device according to claim 7, wherein

when the first preset condition is met, the indication information further indicates that the group 2 comprises remaining first-type parameters that are in the $K^{NZ}-v$ first-type parameters and that are other than the $\lceil K^{NZ}/2\rceil - v$ first-type parameters.

9. The terminal device according to claim 7 or 8, wherein each of the first-type parameters

comprises an amplitude and a phase.

10. An access device, comprising:

a communication module (502), configured to receive indication information, wherein the indication information indicates $K^{NZ}-v$ non-zero weighting coefficients, the $K^{NZ}-v$ non-zero weighting coefficients belong to K^{NZ} non-zero weighting coefficients, v is a quantity of transport layers, and the K^{NZ} non-zero weighting coefficients are used to construct a precoding matrix, wherein:

when a first preset condition is met, the indication information indicates that a group 1 comprises $\lceil K^{NZ}/2 \rceil - v$ first-type parameters, wherein the first preset condition comprises the following condition: $\lceil K^{NZ}/2 \rceil - v > 0$; or

when a second preset condition is met, the indication information indicates that a group 2 comprises $K^{NZ}-v$ first-type parameters, wherein the second preset condition comprises the following condition: $\lceil K^{NZ}/2 \rceil - v \le 0$; and

a processing module (504), configured to determine the $K^{NZ}-v$ non-zero weighting coefficients based on the indication information.

11. The access device according to claim 10, wherein

when the first preset condition is met, the indication information further indicates that the group 2 comprises remaining first-type parameters that are in the $K^{NZ}-v$ first-type parameters and that are other than the $\lceil K^{NZ}/2 \rceil - v$ first-type parameters.

12. The access device according to claim 7 or 8, wherein each of the first-type parameters comprises an amplitude and a phase.13. A processor, wherein the processor is configured to perform the method according to any one of claims 1 to 6.

14. A communication device, comprising:

a memory, configured to store a computer program; and

a processor, configured to execute the computer program stored in the memory, to perform the method according to any one of claims 1 to 6.

15. A computer-readable storage medium, comprising instructions, wherein when the instructions are run on a computer, the computer is enabled to perform the method according to any one of claims 1 to 6.

16. A computer program product comprising instructions, wherein when the computer

program product runs on a computer, the computer is enabled to perform the method according to any one of claims 1 to 6.

17. A communication system comprising at least one terminal device as claimed in any one of claims 7 to 9 and at least one access device as claimed in any one of claims 10 to 12.