

What is claimed is:

1. A feedback information transmission method applied to a terminal device, wherein the method comprises:

in the case of receiving at least two physical downlink control channels PDCCHs sent by at least two transmission reception points TRPs or different antenna panels of one TRP, determining a target physical uplink control channel PUCCH resource, and sending target feedback information by using the target PUCCH resource, wherein the target feedback information is feedback information of each physical downlink shared channel PDSCH scheduled by the at least two PDCCHs.

2. The method according to claim 1, wherein in the case that the target PUCCH resource comprises one PUCCH resource, the determining a target PUCCH resource comprises:

sorting DCI in a first downlink control information DCI set according to a PDCCH monitoring occasion, a serving cell index, and a TRP identifier;

determining the target PUCCH resource according to first target DCI and a quantity of target feedback information bits;

wherein the first DCI set is DCI carried by the at least two PDCCHs, the first target DCI is DCI ranked last in the first DCI set, the PDCCH monitoring occasion is a monitoring occasion of a PDCCH carrying the DCI, the serving cell index is an index of a serving cell wherein a PDSCH scheduled through the DCI is located, and the TRP identifier is an identifier of a TRP corresponding to the DCI or an identifier of a TRP corresponding to a PDSCH scheduled through the DCI.

3. The method according to claim 2, wherein the sorting DCI in a first downlink control information DCI set according to a PDCCH monitoring occasion, a serving cell index, and a TRP identifier comprises:

sorting DCI in an ascending order across PDCCH monitoring occasion indexes, sorting DCI in an ascending order across serving cell indexes for a same PDCCH monitoring occasion, and sorting DCI according to a TRP identifier for a same PDCCH monitoring occasion and a same serving cell index;

or

sorting DCI in an ascending order across PDCCH monitoring occasion indexes, sorting DCI according to a TRP identifier for a same PDCCH monitoring occasion, and sorting DCI in an ascending order across serving cell indexes for a same PDCCH monitoring occasion and a same TRP identifier;

or

sorting DCI according to a TRP identifier, sorting DCI in an ascending order across PDCCH monitoring occasion indexes for a same TRP identifier, and sorting DCI in an ascending order across serving cell indexes for a same TRP identifier and a same PDCCH monitoring occasion.

4. The method according to claim 3, wherein the sorting DCI according to a TRP identifier for a same PDCCH monitoring occasion and a same serving cell index comprises:

sorting DCI in an ascending order of TRP identifiers for a same PDCCH monitoring occasion and a same serving cell index.

5. The method according to claim 1, wherein in the case that the target PUCCH resource comprises at least two PUCCH resources, the determining a target PUCCH resource comprises:

determining a first set, wherein the first set is a set composed of PUCCH resources corresponding to each of TRPs that send the at least two PDCCHs or PDSCHs; and

determining the target PUCCH resource according to the first set.

6. The method according to claim 5, wherein in the case that no PUCCH resources in the first set intersect in a time domain, or antenna panels corresponding to PUCCH resources that intersect in a time domain are different, the determining the target PUCCH resource according to the first set comprises:

determining all PUCCH resources in the first set as the target PUCCH resource.

7. The method according to claim 5, wherein in the case that the first set comprises PUCCH resources that intersect in a time domain and correspond to antenna panels that intersect, the determining the target PUCCH resource according to the first set comprises:

determining one PUCCH resource in a second set as the target PUCCH resource according to a preset rule, and determining all PUCCH resources in a third set as the target PUCCH resource;

wherein the second set is a set composed of PUCCH resources in the first set that intersect with another PUCCH resource in a time domain and correspond to antenna panels that intersect, and the third set is a set composed of PUCCH resources in the first set other than those in the second set.

8. The method according to claim 7, wherein the determining one PUCCH resource in a second set as the target PUCCH resource according to a preset rule comprises:

determining a corresponding PUCCH resource with the highest priority of uplink control information UCI in the second set as the target PUCCH resource;

or

determining a PUCCH resource with the highest priority of a TRP in the second set as the target PUCCH resource.

9. A terminal device, comprising:

a processing unit, configured to determine a target physical uplink control channel PUCCH resource in the case of receiving at least two physical downlink control channels PDCCHs sent by at least two transmission reception points TRPs or different antenna panels of one TRP; and

a sending unit, configured to send target feedback information through the target PUCCH resource, wherein the target feedback information is feedback information of each physical downlink shared channel PDSCH scheduled by the at least two PDCCHs.

10. The terminal device according to claim 9, wherein in the case that the target PUCCH resource comprises one PUCCH resource, the processing unit is specifically configured to sort DCI in a first downlink control information DCI set according to a PDCCH monitoring occasion, a serving cell index, and a TRP identifier, and to determine the target PUCCH resource according to first target DCI and a quantity of target feedback information bits;

wherein the first DCI set is DCI carried by the at least two PDCCHs, the first target DCI is DCI ranked last in the first DCI set, the PDCCH monitoring occasion is a monitoring occasion of a PDCCH carrying the DCI, the serving cell index is an index of a serving cell wherein a PDSCH scheduled through the DCI is located, and the TRP identifier is an identifier of a TRP

corresponding to the DCI or an identifier of a TRP corresponding to a PDSCH scheduled through the DCI.

11. The terminal device according to claim 9, wherein the processing unit is specifically configured to sort DCI in an ascending order across PDCCH monitoring occasion indexes, to sort DCI in an ascending order across serving cell indexes for a same PDCCH monitoring occasion, and to sort DCI according to a TRP identifier for a same PDCCH monitoring occasion and a same serving cell index;

or

to sort DCI in an ascending order across PDCCH monitoring occasion indexes, to sort DCI according to a TRP identifier for a same PDCCH monitoring occasion, and to sort DCI in an ascending order across serving cell indexes for a same PDCCH monitoring occasion and a same TRP identifier;

or

to sort DCI according to a TRP identifier, to sort DCI in an ascending order across PDCCH monitoring occasion indexes for a same TRP identifier, and to sort DCI in an ascending order across serving cell indexes for a same TRP identifier and a same PDCCH monitoring occasion.

12. The terminal device according to claim 11, wherein the processing unit is specifically configured to sort DCI in an ascending order of TRP identifiers for a same PDCCH monitoring occasion and a same serving cell index.

13. The terminal device according to claim 9, wherein in the case that the target PUCCH resource comprises at least two PUCCH resources, the processing unit is specifically configured to determine a first set, wherein the first set is a set of PUCCH resources corresponding to each of TRPs that send the at least two PDCCHs or PDSCHs, and to determine the target PUCCH resource according to the first set.

14. The terminal device according to claim 13, wherein in the case that no PUCCH resources in the first set intersect in a time domain or antenna panels corresponding to PUCCH resources that intersect in a time domain are different, the processing unit is specifically configured to determine all PUCCH resources in the first set as the target PUCCH resource.

15. The terminal device according to claim 13, wherein in the case that the first set comprises PUCCH resources that intersect in a time domain and correspond to antenna panels that intersect, the processing unit is specifically configured to determine one PUCCH resource in a second set as the target PUCCH resource according to a preset rule, and to determine all PUCCH resources in a third set as the target PUCCH resource;

wherein the second set is a set composed of PUCCH resources in the first set that intersect with another PUCCH resource in a time domain and correspond to antenna panels that intersect, and the third set is a set composed of PUCCH resources in the first set other than those in the second set.

16. The terminal device according to claim 15, wherein the processing unit is specifically configured to select a corresponding PUCCH resource with the highest priority of Uplink Control Information UCI in the second set as the target PUCCH resource;

or

determining a PUCCH resource with the highest priority of a TRP in the second set as the target PUCCH resource.

17. The terminal device according to claim 16, wherein the sending unit is specifically configured to send corresponding feedback information through the target PUCCH resource determined in the second set; and to discard feedback information corresponding to another PUCCH resource other than the determined target PUCCH resource in the second set.

18. The terminal device according to claim 13, wherein in the case that the first set comprises PUCCH resources that intersect in a time domain and correspond to antenna panels that intersect, the processing unit is specifically configured to determine a pre-configured target resource as the target PUCCH resource, and to determine every PUCCH resource in a third set as the target PUCCH resource;

wherein the third set is a set composed of PUCCH resources in the first set other than those in the second set, and the second set is a set composed of PUCCH resources in the first set that intersect with another PUCCH resource in a time domain and correspond to antenna panels that intersect.

19. The terminal device according to claim 18, wherein the sending unit is specifically configured to send target feedback information corresponding to all PUCCH resources in the second set through the pre-configured target resource.

20. The terminal device according to claim 10, wherein the TRP identifier is determined through at least one of a TRP identifier ID, a TRP index, a virtual cell ID, a physical downlink control channel demodulation reference signal scrambling identification PDCCH-DMRS-Scrambling ID, an ID of a control resource set CORESET wherein a PDCCH is located, an ID of a search space wherein a PDCCH is located, and a radio network temporary identity RNTI of a scrambled PDCCH.