

WHAT IS CLAIMED IS:

1. A method for transmitting Hybrid Automatic Repeat reQuests HARQs, comprising:
transmitting, HARQs of a plurality of different transmission blocks TBs that are alternately transmitted, based on different time domain resources;
wherein, alternately transmitting the plurality of different TBs comprises: cyclically transmitting a TB alternate transmission unit until a total number of repeated transmissions configured for each TB is satisfied, in which the TB alternate transmission unit comprises N repeated transmissions of the different TBs and N is greater than 0 and less than the total number of repeated transmissions configured.
2. The method as claimed in claim 1, wherein transmitting the HARQs of the plurality of different TBs comprises:
transmitting M repeated transmissions of the HARQ of each TB sequentially, where M is a total number of repeated transmissions of the HARQ of each TB.
3. The method as claimed in claim 2, wherein transmitting the HARQs of the plurality of different TBs comprises:
transmitting the HARQs of the different TBs alternately.
4. The method as claimed in claim 3, wherein transmitting the HARQs of the different TBs alternately comprises: cyclically transmitting a HARQ alternate transmission unit until a total number of repeated transmissions configured for each HARQ is satisfied;
in which the HARQ alternate transmission unit comprises X repeated transmissions of each HARQ and X is greater than 0 and less than the total number of repeated transmissions configured for each HARQ.
5. The method as claimed in claim 4, further comprising:
determining a number of repeated transmissions of the HARQ in the HARQ alternate transmission unit based on a received high-level signaling;
or,
determining a number of repeated transmissions of the HARQ in the HARQ alternate transmission unit based on a number of repeated transmissions of the TB in the TB alternate

transmission unit;

or,

determining a number of repeated transmissions of the HARQ in the HARQ alternate transmission unit based on a frequency hopping unit of a physical uplink control channel PUCCH, wherein the frequency hopping unit is configured to configure a number of consecutive repeated transmissions of the PUCCH in a frequency domain.

6. The method as claimed in any one of claims 1 to 5, wherein transmitting the HARQs of the plurality of different TBs based on the different time domain resources comprises:

transmitting different HARQs by using the different time domain resources after a first time interval in which transmission of the first one of the TBs is finished;

or,

transmitting different HARQs by using the different time domain resources after a second time interval in which transmission of the last one of the TBs is finished.

7. The method as claimed in any one of claims 1 to 5, wherein transmitting the HARQs of the plurality of different transmission blocks TBs based on the different time domain resources comprises:

transmitting the HARQs of the different TBs on a physical uplink control channel PUCCH based on the different time domain resources.

8. A method for transmitting Hybrid Automatic Repeat reQuests HARQs, comprising:

generating HARQ information by performing predetermined encoding on HARQs of a plurality of different transmission blocks TBs that are alternately transmitted and transmitting the HARQ information;

wherein, alternately transmitting the plurality of different TBs comprises: cyclically transmitting a TB alternate transmission unit until a total number of repeated transmissions configured for each TB is satisfied, in which the TB alternate transmission unit comprises N repeated transmissions of the different TBs and N is greater than 0 and less than the total number of repeated transmissions configured.

9. The method as claimed in claim 8, wherein performing the predetermined encoding on the HARQs of the plurality of different TBs that are alternately transmitted comprises:

obtaining the HARQ information by performing a bitwise logical AND operation on the HARQs of the plurality of different TBs.

10. The method as claimed in claim 9, further comprising:

modulating the HARQ information by adopting binary phase shift keying BPSK; and

transmitting the HARQ information comprises:

transmitting the HARQ information modulated by the BPSK.

11. The method as claimed in claim 8, wherein performing the predetermined encoding on the HARQs of the plurality of different TBs that are alternately transmitted further comprises:

obtaining different groups of HARQs by performing a bitwise logical AND operation based on groups on the HARQs of the plurality of different TBs; and

obtaining the HARQ information by combining the different groups of HARQs.

12. The method as claimed in claim 11, further comprising:

modulating the HARQ information by adopting quadrature phase shift keying QPSK; and

transmitting the HARQ information comprises:

transmitting the HARQ information modulated by the QPSK.

13. The method as claimed in any one of claims 8 to 12, wherein transmitting the HARQ information comprises:

transmitting the HARQ information by using a physical uplink control channel PUCCH, the HARQ information being transmitted on a PUCCH resource after a third time interval after transmission of the last one of the TBs is finished.

14. A method for transmitting Hybrid Automatic Repeat reQuests HARQs, comprising: receiving HARQ information that is obtained by performing predetermined encoding on HARQs of a plurality of different transmission blocks TBs that are alternately transmitted;

obtaining a decoding sequence by decoding the HARQ information based on a demodulating mode corresponding to the predetermined encoding; and

determining demodulating states of the plurality of different TBs based on the decoding sequence;

wherein, alternately transmitting the plurality of different TBs comprises: cyclically transmitting a TB alternate transmission unit until a total number of repeated transmissions configured for each TB is satisfied, in which the TB alternate transmission unit comprises N repeated transmissions of the different TBs and N is greater than 0 and less than the total number of repeated transmissions configured.

15. The method as claimed in claim 14, wherein determining the demodulating states of the plurality of different TBs based on the decoding sequence comprises:

determining that the plurality of different TBs are successfully received in response to determining that the decoding sequence is a preset sequence.

16. The method as claimed in claim 14 or 15, wherein determining the demodulating states of the plurality of different TBs based on the decoding sequence comprises:

determining that at least one of the TBs is unsuccessfully demodulated in response to determining that the decoding sequence is not a preset sequence.

17. The method as claimed in claim 16, further comprising:

retransmitting the entire TB alternate transmission unit in response to at least one of the TBs being unsuccessfully demodulated.

18. The method as claimed in claim 14 or 15, wherein obtaining the decoding sequence by decoding the HARQ information based on the demodulating mode corresponding to the predetermined encoding, comprises:

obtaining the decoding sequence by decoding the HARQ information based on a demodulating mode of binary phase shift keying BPSK or quadrature phase shift keying QPSK.

19. A storage medium having an executable program stored thereon, wherein when the executable program is executed by a processor, the method for transmitting HARQs according to any one of claims 1-7 or claims 8-13 or claims 14-18 is performed.

20. An apparatus for transmitting Hybrid Automatic Repeat reQuests HARQs, comprising a processor, a memory and an executable program stored on the memory and capable of being performed by the processor, wherein when the processor executes the executable program, the

method for transmitting HARQs according to any one of claims 1-7 or claims 8-13 or claims 14-18 is performed.