WHAT IS CLAIMED IS:

1. A method for sending a hybrid automatic repeat request acknowledgement (HARQ-ACK), performed by a user equipment, the method comprising:

determining a first slot set and a second slot set, wherein the first slot set comprises slots corresponding to multiple-transmission-time-interval (multi-TTI) physical downlink shared channels (PDSCHs), and the second slot set comprises slots in a feedback window corresponding to a HARQ-ACK codebook and the HARQ-ACK codebook is comprised in a physical uplink control channel (PUCCH) for feeding back HARQ-ACKs of the multi-TTI PDSCHs;

determining at least one slot group that is in the first slot set and is not in the second slot set and a target slot one-to-one corresponding to each slot group, the slot group comprising at least one slot and the target slot being a slot in both the first slot set and the second slot set;

determining a logical HARQ-ACK on the target slot according to an HARQ-ACK on each slot in each slot group and an HARQ-ACK on the target slot corresponding to each slot group; and

sending the HARQ-ACK codebook, wherein the HARQ-ACK codebook comprises the logical HARQ-ACK on the target slot.

2. The method as claimed in claim 1, wherein determining the at least one slot group that is in the first slot set and is not in the second slot set comprises:

determining all slots that are in the first slot set and are not in the second slot set as one slot group.

3. The method as claimed in claim 2, wherein determining the target slot one-to-one corresponding to each slot group comprises:

determining the target slot located after a last slot in the one slot group.

4. The method as claimed in claim 2, wherein determining the target slot one-to-one corresponding to each slot group comprises:

determining the target slot that has a time domain position closest to a last slot in the one slot group and is located after the last slot in the one slot group.

5. The method as claimed in claim 2, wherein determining the target slot one-to-one corresponding to each slot group comprises:

determining the target slot located before a last slot in the one slot group.

6. The method as claimed in any one of claims 1 to 5, wherein determining the at least one slot group that is in the first slot set and is not in the second slot set comprises:

determining the at least one slot group that is in the first slot set and is not in the second slot set according to a first number and a second number, the first number being a number of slots that are in the first slot set and are not in the second slot set and the second number being a number of slots that are in both the first slot set and the second slot set.

7. The method as claimed in claim 6, wherein determining the at least one slot group that is in the first slot set and is not in the second slot set according to the first number and the second number comprises:

in response to the first number being a multiple of the second number, determining a quotient of the first number and the second number; and determining that a number of the at least one slot group is the second number and a number of slots in each slot group is the quotient; or

in response to the first number not being a multiple of the second number, determining that a number of the at least one slot group is the second number and a number of slots in each slot group except a last slot group is the same.

8. The method as claimed in any one of claims 1 to 7, wherein slots in each slot group in the at least one slot group are consecutive slots.

9. The method as claimed in any one of claims 1 to 8, wherein the at least one slot group comprises a slot group sequence arranged in a first time domain direction and a target slot sequence corresponding to the slot group sequence arranged in the first time domain direction is also arranged in the first time domain direction.

10. The method as claimed in any one of claims 1 to 9, wherein determining the logical HARQ-ACK on the target slot according to the HARQ-ACK on each slot in each slot group and the HARQ-ACK on the target slot corresponding to each slot group comprises:

performing a logical AND operation according to the HARQ-ACK on each slot in each slot group and the HARQ-ACK on the target slot corresponding to each slot group and determining a result of the logical AND operation as the logical HARQ-ACK on the target slot.

11. A method for receiving a hybrid automatic repeat request acknowledgement (HARQ-ACK), performed by a network side device, the method comprises:

sending multiple-transmission-time-interval (multi-TTI) physical downlink shared channels (PDSCHs); and

receiving a HARQ-ACK codebook comprised in a physical uplink control channel (PUCCH) for feeding back HARQ-ACKs of the multi-TTI PDSCHs, the HARQ-ACK codebook comprising a logical HARQ-ACK on a target slot;

wherein the logical HARQ-ACK on the target slot is determined by:

determining a first slot set and a second slot set, wherein the first slot set comprises slots corresponding to the multi-TTI PDSCHs, and the second slot set comprises slots in a feedback window corresponding to the HARQ-ACK codebook;

determining at least one slot group that is in the first slot set and is not in the second slot set and a target slot one-to-one corresponding to each slot group, the slot group comprising at least one slot and the target slot being the slot in both the first slot set and the second slot set; and

determining the logical HARQ-ACK on the target slot according to an HARQ-ACK on each slot in each slot group and an HARQ-ACK on the target slot corresponding to each slot group.

12. The method as claimed in claim 11, wherein determining the at least one slot group that is in the first slot set and is not in the second slot set comprises:

determining all slots that are in the first slot set and are not in the second slot set as one slot group.

13. The method as claimed in claim 12, wherein determining the target slot one-to-one corresponding to each slot group comprises:

determining the target slot located after a last slot in the one slot group.

14. The method as claimed in claim 12, wherein determining the target slot one-to-one

corresponding to each slot group comprises:

determining the target slot that has a time domain position closest to a last slot in the one slot group and is located after the last slot in the one slot group; or

determining the target slot located before a last slot in the one slot group.

15. The method as claimed in any one of claims 11 to 14, wherein determining the at least one slot group that is in the first slot set and is not in the second slot set comprises:

determining the at least one slot group that is in the first slot set and is not in the second slot set according to a first number and a second number, the first number being a number of slots that are in the first slot set and are not in the second slot set and the second number being a number of slots that are in both the first slot set and the second slot set.

16. The method as claimed in claim 15, wherein determining the at least one slot group that is in the first slot set and is not in the second slot set according to the first number and the second number comprises:

in response to the first number being a multiple of the second number, determining a quotient of the first number and the second number, and determining that a number of the at least one slot group is the second number and a number of slots in each slot group is the quotient; or

in response to the first number not being a multiple of the second number, determining that a number of the at least one slot group is the second number and a number of slots in each slot group except a last slot group is the same.

17. The method as claimed in any one of claims 11 to 16, wherein,

determining the logical HARQ-ACK on the target slot according to the HARQ-ACK on each slot in each slot group and the HARQ-ACK on the target slot corresponding to each slot group comprises:

performing a logical AND operation according to the HARQ-ACK on each slot in each slot group and the HARQ-ACK on the target slot corresponding to each slot group and determining a result of the logical AND operation as the logical HARQ-ACK on the target slot.

18. A user equipment, comprising:

a processor; and

a memory for storing instructions executable by the processor,

wherein the processor is configured to execute the executable instructions in the memory to perform steps of the method of sending an HARQ-ACK of any one of claims 1 to 10.

19. A network side device, comprising:

a processor; and

a memory for storing instructions executable by the processor,

wherein the processor is configured to execute the executable instructions in the memory to perform steps of the method of receiving an HARQ-ACK of any one of claims 11 to 17.

20. A non-transitory computer-readable storage medium having stored therein executable instructions that, when executed by a processor of a communication device, steps of the method of sending an HARQ-ACK of any one of claims 1 to 10 or steps of the method of receiving an HARQ-ACK of any one of claims 11 to 17 are performed.