

What is claimed is:

1. A resource indication method, comprising:

transmitting first indication signaling to a terminal;

wherein the first indication signaling comprises:

5 time domain reservation period information, time domain offset information, and reserved time domain resource information reserved in a time domain reservation period corresponding to the time domain reservation period information, the time domain resource information used for indicating to indicate that a corresponding time domain resource is not allowed to be used for transmission,

10 wherein a time domain resource reserved in the time domain reservation period is represented by a time domain reservation bitmap,

wherein the time domain reservation bitmap comprises:

a slot reservation bitmap used to indicate a reserved slot in the time domain reservation period; and

15 a reservation symbol bitmap used to indicate a reserved symbol in the time domain reservation period.

~~2. The method of claim 1, wherein the first indication signaling comprises:~~

~~time domain reservation period information and time domain offset information, and time domain resource information reserved in a time domain reservation period corresponding to the time domain reservation period information.~~

20 ~~32. The method of claim 21, wherein time domain resource reserved in the time domain reservation period is represented by a time domain reservation bitmap; and~~ a time domain offset corresponding to the time domain offset information is a distance between a subframe where a starting position of the time domain reservation bitmap in the time domain reservation period is located and a start of the time domain reservation period.

25 ~~43. The method of claim 21, wherein the time domain reservation period information and the time domain offset information are jointly coded or independently coded.~~

5. The method of claim 3, wherein the time domain reservation bitmap comprises a slot reservation bitmap used for indicating a reserved slot in the time domain reservation period.
6. The method of claim 5, wherein in a case where a bit corresponding to the slot reservation bitmap is set to a first value, a symbol actually reserved in a slot is determined according to a parity of a slot index.
7. The method of claim 3, wherein the time domain reservation bitmap comprises a reservation symbol bitmap used for indicating a reserved symbol in the time domain reservation period.
8. The method of claim 3, wherein the time domain reservation bitmap comprises a subframe reservation bitmap used for indicating a reserved symbol in the time domain reservation period;
- 10 wherein in a case where a bit corresponding to the subframe reservation bitmap is a first value, a symbol bit preset in a corresponding subframe is indicated to be reserved.
9. The method of claim 3, wherein the time domain reservation bitmap comprises a subframe reservation bitmap and a reservation symbol bitmap which are used for indicating a reserved symbol in the time domain reservation period.
- 15 10. The method of claim 9, wherein in a case where a bit corresponding to the subframe reservation bitmap is set to a first value, the reservation symbol bitmap is used for indicating a reserved symbol in a corresponding subframe in the time domain reservation period.
11. The method of claim 2, wherein the time domain resource information reserved in the time domain reservation period comprises slot reservation bitmap information and subframe reservation bitmap information; wherein in a case where a bit corresponding to the subframe reservation bitmap is a first value, a reserved symbol in a corresponding subframe in the time domain reservation period is predefined; or
- 20 the time domain resource information reserved in the time domain reservation period comprises slot reservation bitmap information, subframe reservation bitmap information, and reservation symbol bitmap information; wherein a reserved symbol in a corresponding subframe in the time domain reservation period is determined according to the reservation symbol bitmap information.
- 25 12. The method of claim 11, wherein the reserved subframe starts from X subframes after an end position of the reserved slot, and X is an integer.
13. The method of claim 1, wherein the first indication signaling comprises:

~~time domain reservation period information used for indicating a time domain reservation period;~~

~~wherein first Y symbols in the time domain reservation period are reserved symbols configured for target data, and a value of Y is indicated by reservation symbol information in the time domain reservation period, or a value of Y is predefined.~~

- 5 ~~14. The method of claim 13, wherein in a case where the time domain reservation period is one subframe, first fourth value symbols of the subframe are reserved, wherein the fourth value is less than or equal to L_{start} ;~~

~~wherein L_{start} denotes a maximum length of an LTE downlink control region.~~

- ~~15. The method of claim 1, wherein the first indication signaling comprises:~~

- 10 ~~slot reservation bitmap information and reservation symbol bitmap information; and~~

~~wherein a time domain reservation period of a slot reservation bitmap is predefined or configured through signaling; and a time domain reservation period of a reservation symbol bitmap is predefined or configured through signaling.~~

- 15 ~~164. The method of claim 21, wherein the time domain reservation period is at least one of 5ms, 10ms, 20ms, 40ms, 80ms, or 160ms.~~

- ~~175. The method of claim 1, wherein the first indication signaling further comprises a reserved frequency domain resource information; and~~

- 20 ~~wherein the reserved frequency domain resource information is used ~~for indicating~~to indicate that a frequency domain resource corresponding to ~~reserved the~~ time domain resource is not allowed to be used for transmission.~~

- ~~18. The method of claim 1, further comprising:~~

~~transmitting second indication signaling; wherein the second indication signaling comprises reserved frequency domain resource information; and~~

- 25 ~~wherein the reserved frequency domain resource information is used for indicating that frequency domain resource corresponding to reserved time domain resource is not allowed to be used for transmission.~~

19. The method of claim 17 or 18, wherein the reserved frequency domain resource comprises at least one consecutive resource block, at least one consecutive narrowband, or at least one consecutive resource block group.
20. The method of claim 17 or 18, wherein in a case where a number of resource blocks included in a system does not exceed a maximum number of resource blocks that need to be reserved:
- 5 in a case where $RB_{START}=0$, $FFRIV=L_{CRRB}-1$; and
- in a case where $0 < RB_{START} < N$, $FFRIV=N+RB_{START}-1$;
- wherein N denotes the number of the resource blocks included in the system; FFRIV denotes a frequency domain reservation indication value corresponding to frequency domain reservation indication signaling; RB_{START} is used for indicating a starting position of a reserved resource block; and
- 10 L_{CRRB} is used for indicating a number of the reserved resource blocks.
21. The method of claim 17 or 18, wherein in a case where a number of resource blocks included in a system exceeds a maximum number of resource blocks that need to be reserved:
- in a case where $RB_{START}=0$, $FFRIV=L_{CRRB}-1$; and
- 15 in a case where $RB_{START} > 0$, $FFRIV=RB_{START}+M-1$;
- wherein N denotes the number of the resource blocks included in the system; M denotes the maximum value of the number of the resource blocks that need to be reserved; FFRIV denotes a frequency domain reservation indication value corresponding to frequency domain reservation indication signaling; RB_{START} is used for indicating a starting position of a reserved resource block; and
- 20 L_{CRRB} is used for indicating a number of the reserved resource blocks.
22. The method of claim 17 or 18, wherein
- in a case where $RB_{START}=0$, $FFRIV=L_{CRRB}-1$; and
- in a case where $RB_{START} > 0$, $FFRIV=RB_{START}+\min(M, N)-1$;
- wherein N denotes a number of resource blocks included in a system; M denotes a maximum number of resource blocks that need to be reserved; FFRIV denotes a frequency domain reservation indication value corresponding to frequency domain reservation indication signaling; RB_{START} is used for indicating a starting position of a reserved resource block; L_{CRRB} is used for indicating a number of the reserved resource blocks; and min denotes a minimum value.
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23. A resource indication method, comprising:

~~transmitting reservation resource rewrite indication signaling;~~

~~wherein the reservation resource rewrite indication signaling is transmitted through a physical downlink control channel; and~~

5 ~~the reservation resource rewrite indication signaling indicates that reserved resource in resources corresponding to a physical shared channel corresponding to the physical downlink control channel is rewritten.~~

24. The method of claim 23, wherein the reservation resource rewrite indication signaling indicating that the reserved resource in the resources corresponding to the physical shared channel
10 ~~corresponding to the physical downlink control channel is rewritten comprises:~~

~~in a case where the reservation resource rewrite indication signaling is 2 bits, indicating that time domain reservation within a currently scheduled data transmission duration range is one of the following four cases:~~

15 ~~the time domain reservation within the currently scheduled data transmission duration range not allowed to be occupied for data transmission, the time domain reservation within a first quarter of the currently scheduled data transmission duration range allowed to be occupied by the data transmission, the time domain reservation within a first half of the currently scheduled data transmission duration range allowed to be occupied by the data transmission, or the time domain reservation within the entire currently scheduled data transmission duration range allowed to be occupied by the data transmission.~~
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25. The method of claim 23, wherein the reservation resource rewrite indication signaling indicating that the reserved resource in the resources corresponding to the physical shared channel
corresponding to the physical downlink control channel is rewritten comprises:

25 ~~a case in which the reservation resource rewrite indication signaling is 2 bits, indicates that time domain reservation within a currently scheduled data transmission duration range is one of the following four cases:~~

30 ~~the time domain reservation within the currently scheduled data transmission duration range not allowed to be occupied for data transmission, the time domain reservation within a first quarter of the currently scheduled data transmission duration range not allowed to be occupied by the data transmission, the time domain reservation within a first half of the currently scheduled data transmission duration range not allowed to be occupied by the data transmission, or the time domain~~

~~reservation within the entire currently scheduled data transmission duration range allowed to be occupied by the data transmission.~~

26. The method of claim 23, wherein the reservation resource rewrite indication signaling indicating that the reserved resource in the resources corresponding to the physical shared channel corresponding to the physical downlink control channel is rewritten comprises:

a case in which the reservation resource rewrite indication signaling is 2 bits, indicates that time-domain reservation within a currently scheduled data transmission duration range is one of the following four cases:

the time domain reservation within the currently scheduled data transmission duration range not allowed to be occupied for data transmission, the time domain reservation within a first half of the currently scheduled data transmission duration range allowed to be occupied by the data transmission, the time domain reservation within the first half of the currently scheduled data transmission duration range not allowed to be occupied by the data transmission, or the time domain reservation within the entire currently scheduled data transmission duration range allowed to be occupied by the data transmission.

27. A data receiving method, comprising:

receiving first indication signaling transmitted by a base station;

wherein the first indication signaling comprises reserved time domain resource information used for indicating that first time domain resource is not allowed to be used for transmission.

28. The method of claim 27, wherein the first indication signaling comprises:

time domain reservation period information, time domain offset information, and time domain resource information reserved in a time domain reservation period corresponding to the time domain reservation period information;

wherein time domain resource reserved in the time domain reservation period is represented by a time domain reservation bitmap; and a time domain offset corresponding to the time domain offset information is a distance between a subframe where a starting position of the time domain reservation bitmap in the time domain reservation period is located and a start of the time domain reservation period.

29. The method of claim 27, wherein the first indication signaling further comprises reserved frequency domain resource information; wherein the reserved frequency domain resource information is used for

indicating that frequency domain resource corresponding to reserved time domain resource is not allowed to be used for transmission; or

the method further comprises receiving second indication signaling; wherein the second indication signaling comprises reserved frequency domain resource information; and wherein the reserved frequency domain resource information is used for indicating that frequency domain resource corresponding to reserved time domain resource is not allowed to be used for transmission.

30. The method of claim 29, wherein

in a case where $RB_{START}=0$, $FFRIV=L_{CRRB}-1$; and

in a case where $RB_{START}>0$, $FFRIV=RB_{START}+\min(M, N)-1$;

wherein N denotes a number of resource blocks included in a system; M denotes a maximum number of resource blocks that need to be reserved; FFRIV denotes a frequency domain reservation indication value corresponding to frequency domain reservation indication signaling; RB_{START} is used for indicating a starting position of a reserved resource block; L_{CRRB} is used for indicating a number of the reserved resource blocks; and min denotes a minimum value.

31. A data receiving method, comprising:

receiving reservation resource rewrite indication signaling;

wherein the reservation resource rewrite indication signaling is transmitted through a physical downlink control channel; and

the reservation resource rewrite indication signaling indicates that reserved resource in resources corresponding to a physical shared channel corresponding to the physical downlink control channel is rewritten.

32. A resource indication apparatus, comprising:

a first transmission module, which is configured to transmit first indication signaling to a terminal;

wherein the first indication signaling comprises reserved time domain resource information used for indicating that corresponding time domain resource is not allowed to be used for transmission.

33. A data receiving apparatus, comprising:

~~a first receiving module, which is configured to receive first indication signaling transmitted by a base station;~~

~~wherein the first indication signaling comprises reserved time domain resource information used for indicating that corresponding time domain resource is not allowed to be used for transmission.~~

5 6. The method of claim 1, wherein the time domain reservation bitmap further comprises a subframe reservation bitmap used to indicate a reserved subframe in the time domain reservation period.

7. The method of claim 1, wherein the time domain resource information is reserved in a first system for a second system, wherein the first system comprises an MTC system or an NB-IoT system, and wherein the second system comprises an NR system.

10 8. An apparatus comprising:

a memory storing a plurality of instructions; and

a processor configured to execute the plurality of instructions, and upon execution of the plurality of instructions, is configured to:

receive first indication signaling from a base station;

15 wherein the first indication signaling comprises:

time domain reservation period information, time domain offset information, and time domain resource information reserved in a time domain reservation period corresponding to the time domain reservation period information, the time domain resource information used to indicate that a corresponding time domain resource is not allowed to be used for transmission,

20 wherein a time domain resource reserved in the time domain reservation period is represented by a time domain reservation bitmap,

wherein the time domain reservation bitmap comprises:

a slot reservation bitmap used to indicate a reserved slot in the time domain reservation period; and

a reservation symbol bitmap used to indicate a reserved symbol in the time domain reservation period.

25 9. The apparatus of claim 8, wherein the time domain reservation period information and the time domain offset information are jointly coded or independently coded.

10. The apparatus of claim 8, wherein the time domain reservation period is at least one of 5ms, 10ms, 20ms, 40ms, 80ms, or 160ms.
11. The apparatus of claim 8, wherein the first indication signaling further comprises reserved frequency domain resource information; and
- 5 wherein the reserved frequency domain resource information is used for indicating that frequency domain resource corresponding to reserved time domain resource is not allowed to be used for transmission.
12. The apparatus of claim 8, wherein the time domain reservation bitmap further comprises a subframe reservation bitmap used to indicate a reserved subframe in the time domain reservation
- 10 period.
13. The apparatus of claim 8, wherein the time domain resource information is reserved in a first system for a second system, wherein the first system comprises an MTC system or an NB-IoT system, and wherein the second system comprises an NR system.
14. An apparatus comprising:
- 15 a memory storing a plurality of instructions; and
- a processor configured to execute the plurality of instructions, and upon execution of the plurality of instructions, is configured to:
- transmit first indication signaling to a terminal;
- wherein the first indication signaling comprises:
- 20 time domain reservation period information, time domain offset information, and time domain resource information reserved in a time domain reservation period corresponding to the time domain reservation period information, the time domain resource information used to indicate that a corresponding time domain resource is not allowed to be used for transmission,
- wherein a time domain resource reserved in the time domain reservation period is represented by a
- 25 time domain reservation bitmap,
- wherein the time domain reservation bitmap comprises:
- a slot reservation bitmap used to indicate a reserved slot in the time domain reservation period; and

- a reservation symbol bitmap used to indicate a reserved symbol in the time domain reservation period.
- 5 15. The apparatus of claim 14, wherein a time domain offset corresponding to the time domain offset information is a distance between a subframe where a starting position of the time domain reservation bitmap in the time domain reservation period is located and a start of the time domain reservation period.
16. The apparatus of claim 14, wherein the time domain reservation period information and the time domain offset information are jointly coded or independently coded.
17. The apparatus of claim 14, wherein the time domain reservation period is at least one of 5ms, 10ms, 20ms, 40ms, 80ms, or 160ms.
- 10 18. The apparatus of claim 14, wherein the first indication signaling further comprises reserved frequency domain resource information; and
wherein the reserved frequency domain resource information is used for indicating that frequency domain resource corresponding to reserved time domain resource is not allowed to be used for transmission.
- 15 19. The apparatus of claim 14, wherein the time domain reservation bitmap further comprises a subframe reservation bitmap used to indicate a reserved subframe in the time domain reservation period.
- 20 20. The apparatus of claim 14, wherein the time domain resource information is reserved in a first system for a second system, wherein the first system comprises an MTC system or an NB-IoT system, and wherein the second system comprises an NR system.