WHAT IS CLAIMED IS:

1. A method for indicating transmission, for a base station, comprising:

determining to transmit one or more transmission blocks (TBs) in a first number of designated time units, where the first number is an integer greater than 1;

generating a first downlink control information (DCI) signaling for indicating that the one or more TBs are transmitted in the designated time units; and

transmitting the first DCI signaling to a terminal, so that the terminal transmits the one or more TBs in the designated time units based on the first DCI signaling;

wherein generating the first DCI signaling comprises:

determining beam indication information corresponding to each designated time unit; and

adding the beam indication information into the first DCI signaling,

(1) wherein a number of pieces of beam indication information to be allocated is a third number, and the third number is equal to the first number, and determining the beam indication information corresponding to the each designated time unit comprises: allocating the pieces of beam indication information to the designated time units, respectively, different pieces of beam indication information being allocated to different designated time units, or

(2) wherein a number of pieces of beam indication information to be allocated is less than the first number, and determining the beam indication information corresponding to the each designated time unit comprises: allocating one piece of beam indication information to a time unit in the designated time units whose time interval with the first DCI signaling is greater than or equal to a preset threshold, wherein different time unit groups are allocated with different pieces of beam indication information, and the time unit group comprises consecutive time units and/or nonconsecutive time units.

2. The method as claimed in claim 1, wherein the designated time unit is a designated mini-slot; and

generating the first DCI signaling comprises:

determining a position of start symbol and a number of symbols of each designated mini-slot; and

adding the position of start symbol and the number of symbols of each designated mini-slot into the first DCI signaling.

3. The method as claimed in claim 2, wherein a number of slots occupied by the designated mini-slots is a second number, the second number is less than or equal to the first number, the second number is an integer greater than 0, and all symbols of one designated mini-slot are within one slot and cannot be allocated to different slots.

4. The method as claimed in claim 2, wherein the designated mini-slots comprise adjacent mini-slots and/or non-adjacent mini-slots.

5. The method as claimed in claim 1, wherein the designated time unit is a designated slot; and

generating the first DCI signaling comprises:

determining a position of a designated start symbol and a position of a designated end symbol, of each designated slot; and

adding the position of the designated start symbol and the position of the designated end symbol into the first DCI signaling.

~~6. The method as claimed in claim 5, wherein the position of the designated start symbol is a position of the first designated slot of the designated slots, and positions of start symbols of other designated slots are the first symbols of other designated slots; or~~

~~the position of the designated start symbol is a position of each designated slot of the designated slots.~~

~~7. The method as claimed in claim 5, wherein the position of the designated end symbol is a position of the last designated slot of the designated slots, and positions of end symbols~~

~~of other designated slots are the last symbols of other designated slots; or~~

~~the position of the designated end symbol is a position of each designated slot of the designated slots.~~

~~8. The method as claimed in claim 5, wherein the designated slots are adjacent slots.~~

~~9. The method as claimed in claim 1, wherein generating the first DCI signaling comprises:~~

~~determining beam indication information corresponding to each designated time unit; and~~

~~adding the beam indication information into the first DCI signaling.~~

~~10. The method as claimed in claim 9, wherein a number of pieces of beam indication information to be allocated is a third number, and the third number is equal to the first number, and~~

~~determining the beam indication information corresponding to the each designated time unit comprises:~~

~~allocating the pieces of beam indication information to the designated time units, respectively, different pieces of beam indication information being allocated to different designated time units.~~

~~11. The method as claimed in claim 9, wherein a number of pieces of beam indication information to be allocated is a fourth number, the fourth number is less than the first number, and the fourth number is an integer greater than 0; and~~

~~determining the beam indication information corresponding to the each designated time unit comprises:~~

~~for the designated time units, allocating the pieces of beam indication information to the fourth number of latter designated time units, respectively, and allocating one piece of default beam indication information to each of other designated time units.~~

12. The method as claimed in claim 9, wherein a number of pieces of beam indication information to be allocated is a fifth number, the fifth number is less than the first number, and the fifth number is an integer greater than 0; and

determining the beam indication information corresponding to the each designated time unit comprises:

dividing the first number of designated time units into the fifth number of time unit groups;

calculating a time interval between each time unit in each time unit group and the first DCI signaling, allocating default beam indication information to a time unit whose time interval is less than a preset threshold; and allocating one of the fifth number of pieces of beam indication information to a time unit whose time interval is greater than or equal to the threshold, wherein different time unit groups are allocated with different pieces of beam indication information in the fifth number of pieces of beam indication information, and the time unit group comprises consecutive time units and/or nonconsecutive time units.

13. The method as claimed in claim 9, wherein a number of pieces of beam indication information to be allocated is a sixth number, the sixth number is less than the first number, and the sixth number is an integer greater than 0; and

determining the beam indication information corresponding to the each designated time unit comprises:

calculating a time interval between each designated time unit and the first DCI signaling, allocating default beam indication information to a time unit whose time interval is less than a preset threshold;

dividing time units whose time intervals are greater than or equal to the threshold into the sixth number of time unit groups, and allocating one of the sixth number of pieces of beam indication information to each of the sixth number of time unit groups, wherein different time unit groups are allocated with different pieces of beam indication

~~information in the sixth number of pieces of beam indication information, and the time unit group comprises consecutive time units and/or nonconsecutive time units.~~

~~14. The method as claimed in any one of claims 10 to 13, wherein the beam indication information to be allocated comprises a transmission configuration indication (TCI) state for indicating beam information used when the terminal receives data; and/or spatial relation info for indicating beam information used when the terminal transmits data.~~

~~15. The method as claimed in any one of claims 11 to 13, wherein the default beam indication information comprises a default TCI state and/or default spatial relation info.~~

~~16. The method as claimed in claim 15, wherein the default TCI state is the same as a TCI state used when receiving the first DCI signaling; or~~

~~the default TCI state is the same as a TCI state used when receiving a control resource set (CORESET) with a smallest index, and the CORESET and the first DCI signaling come from the same antenna panel.~~

~~17. The method as claimed in claim 15, wherein the default spatial relation info is the same as spatial relation info used when transmitting a latest physical uplink control channel (PUCCH), and an antenna panel used when transmitting the PUCCH is the same as an antenna panel used when transmitting uplink data.~~

~~18. The method as claimed in claim 9, wherein adding the beam indication information into the first DCI signaling comprises:~~

~~determining antenna panel identifiers corresponding to the designated time units; and~~

~~adding the beam indication information and the antenna panel identifiers into the first DCI signaling.~~

~~19~~6. A method for indicating transmission, for a terminal, comprising:

receiving a first downlink control information (DCI) signaling from a base station, where the first DCI signaling is configured to indicate that one or more transmission blocks (TBs) are transmitted in a first number of designated time units, and the first number is an integer greater than 1; and

transmitting the TBs in the designated time units based on the first DCI signaling;

wherein the first DCI signaling comprises beam indication information corresponding to the designated time units,

transmitting the TBs in the designated time units based on the first DCI signaling comprises:

determining the beam indication information corresponding to the designated time units based on the first DCI signaling; and

transmitting the TBs based on the beam indication information;

(1) wherein a number of pieces of beam indication information to be allocated in the first DCI signaling is a third number, and the third number is equal to the first number, and determining the beam indication information corresponding to the designated time units based on the first DCI signaling comprises: allocating the pieces of beam indication information to the designated time units, respectively, based on the first DCI signaling, different pieces of beam indication information being allocated to different designated time units; or

(2) wherein a number of pieces of beam indication information to be allocated in the first DCI signaling is less than the first number, and determining the beam indication information corresponding to the designated time units based on the first DCI signaling comprises: allocating, based on the first DCI signaling, one piece of beam indication information to a time unit in the designated time units whose time interval with the first DCI signaling is greater than or equal to a preset threshold, wherein different time unit groups are allocated with different pieces of beam indication information, and the time unit group comprises consecutive time units and/or nonconsecutive time units.

~~20~~7. The method as claimed in claim ~~19~~6, wherein the designated time unit is a

designated mini-slot; and the first DCI signaling comprises a position of start symbol and a number of symbols, of each designated mini-slot; and

transmitting the TBs in the designated time units based on the first DCI signaling comprises:

determining the position of start symbol and the number of symbols, of the each designated mini-slot, based on the first DCI signaling; and

transmitting the TBs based on the position of start symbol and the number of symbols, of the each designated mini-slot.

~~21~~8. The method as claimed in claim 6~~19~~, wherein the designated time unit is a designated slot; and the first DCI signaling comprises a position of a designated start symbol and a position of a designated end symbol, of each designated slot; and

transmitting the TBs in the designated time units based on the first DCI signaling comprises:

determining the position of the designated start symbol and the position of the designated end symbol, of the each designated slot, based on the first DCI signaling; and

transmitting the TBs based on the position of the designated start symbol and the position of the designated end symbol.

~~22. The method as claimed in claim 19, wherein the first DCI signaling comprises beam indication information corresponding to the designated time units; and~~

~~transmitting the TBs in the designated time units based on the first DCI signaling comprises:~~

~~determining the beam indication information corresponding to the designated time units based on the first DCI signaling; and~~

~~transmitting the TBs based on the beam indication information.~~

~~23~~9. The method as claimed in claim ~~19~~6, wherein the first DCI signaling comprises beam indication information and antenna panel identifiers, corresponding to the designated

time units; and

transmitting the TBs in the designated time units based on the first DCI signaling comprises:

determining the beam indication information and antenna panel identifiers, corresponding to the designated time units, based on the first DCI signaling; and

transmitting the TBs based on the beam indication information and antenna panel identifiers.

~~24~~10. The method as claimed in claim ~~22~~ 6 or ~~9~~23, wherein the beam indication information comprises a transmission configuration indication (TCI) state for indicating beam information used when the terminal receives data; and/or spatial relation info for indicating beam information used when the terminal transmits data.

~~25~~11. An apparatus for indicating transmission, for a base station, comprising:

a determining module configured to determine to transmit one or more transmission blocks (TBs) in a first number of designated time units, where the first number is an integer greater than 1;

a generating module configured to generate a first downlink control information (DCI) signaling for indicating that the one or more TBs are transmitted in the designated time units; and

a transmitting module configured to transmit the first DCI signaling to a terminal, so that the terminal transmits the one or more TBs in the designated time units based on the first DCI signaling;

wherein generating the first DCI signaling comprises:

determining beam indication information corresponding to each designated time unit; and

adding the beam indication information into the first DCI signaling,

(1) wherein a number of pieces of beam indication information to be allocated is a third number, and the third number is equal to the first number, and determining the beam

indication information corresponding to the each designated time unit comprises: allocating the pieces of beam indication information to the designated time units, respectively, different pieces of beam indication information being allocated to different designated time units, or

(2) wherein a number of pieces of beam indication information to be allocated is less than the first number, and determining the beam indication information corresponding to the each designated time unit comprises: allocating one piece of beam indication information to a time unit in the designated time units whose time interval with the first DCI signaling is greater than or equal to a preset threshold, wherein different time unit groups are allocated with different pieces of beam indication information, and the time unit group comprises consecutive time units and/or nonconsecutive time units.

~~26. The apparatus as claimed in claim 25, wherein the designated time unit is a designated mini-slot; and~~

~~the generating module comprises:~~

~~a first determining submodule configured to determine a position of start symbol and a number of symbols of each designated mini-slot; and~~

~~a first adding submodule configured to add the position of start symbol and the number of symbols of each designated mini-slot into the first DCI signaling.~~

~~27. The apparatus as claimed in claim 26, wherein a number of slots occupied by the designated mini-slots is a second number, the second number is less than or equal to the first number, the second number is an integer greater than 0, and all symbols of one designated mini-slot are within one slot and cannot be allocated to different slots.~~

~~28. The apparatus as claimed in claim 26, wherein the designated mini-slots comprise adjacent mini-slots and/or non-adjacent mini-slots.~~

~~29. The apparatus as claimed in claim 25, wherein the designated time unit is a designated slot; and~~

the generating module comprises:

a second determining submodule configured to determine a position of a designated start symbol and a position of a designated end symbol, of each designated slot; and

a second adding submodule configured to add the position of the designated start symbol and the position of the designated end symbol into the first DCI signaling.

30. The apparatus as claimed in claim 29, wherein the position of the designated start symbol is a position of the first designated slot of the designated slots, and positions of start symbols of other designated slots are the first symbols of other designated slots; or

the position of the designated start symbol is a position of each designated slot of the designated slots.

31. The apparatus as claimed in claim 29, wherein the position of the designated end symbol is a position of the last designated slot of the designated slots, and positions of end symbols of other designated slots are the last symbols of other designated slots; or

the position of the designated end symbol is a position of each designated slot of the designated slots.

32. The apparatus as claimed in claim 29, wherein the designated slots are adjacent slots.

33. The apparatus as claimed in claim 25, wherein the generating module comprises:

a third determining submodule configured to determine beam indication information corresponding to the designated time units; and

a third adding submodule configured to add the beam indication information into the first DCI signaling.

34. The apparatus as claimed in claim 33, wherein a number of pieces of beam indication information to be allocated is a third number, and the third number is equal to the first number, and the third determining submodule comprises:

~~a first allocating unit configured to allocate the pieces of beam indication information to the designated time units, respectively, different pieces of beam indication information being allocated to different designated time units.~~

~~35. The apparatus as claimed in claim 33, wherein a number of pieces of beam indication information to be allocated is a fourth number, the fourth number is less than the first number, and the fourth number is an integer greater than 0; and the third determining submodule comprises:~~

~~a second allocating unit configured to, for the designated time units, allocate the pieces of beam indication information to the fourth number of latter designated time units, respectively, and allocate one piece of default beam indication information to each of other designated time units.~~

~~36. The apparatus as claimed in claim 33, wherein a number of pieces of beam indication information to be allocated is a fifth number, the fifth number is less than the first number, and the fifth number is an integer greater than 0; and the third determining submodule comprises:~~

~~a dividing unit configured to divide the first number of designated time units into the fifth number of time unit groups; and~~

~~a third allocating unit configured to, calculate a time interval between each time unit in each time unit group and the first DCI signaling, allocate default beam indication information to a time unit whose time interval is less than a preset threshold; and allocate one of the fifth number of pieces of beam indication information to a time unit whose time interval is greater than or equal to the threshold, wherein different time unit groups are allocated with different pieces of beam indication information in the fifth number of pieces of beam indication information, and the time unit group comprises consecutive time units and/or nonconsecutive time units.~~

~~37. The apparatus as claimed in claim 33, wherein a number of pieces of beam indication~~

~~information to be allocated is a sixth number, the sixth number is less than the first number, and the sixth number is an integer greater than 0; and the third determining submodule comprises:~~

~~a fourth allocating unit configured to, calculate a time interval between each designated time unit and the first DCI signaling, allocate default beam indication information to a time unit whose time interval is less than a preset threshold; and~~

~~a fifth allocating unit configured to, divide time units whose time intervals are greater than or equal to the threshold into the sixth number of time unit groups, and allocate one of the sixth number of pieces of beam indication information to each of the sixth number of time unit groups, wherein different time unit groups are allocated with different pieces of beam indication information in the sixth number of pieces of beam indication information, and the time unit group comprises consecutive time units and/or nonconsecutive time units.~~

~~38. The apparatus as claimed in any one of claims 34 to 37, wherein the beam indication information to be allocated comprises a transmission configuration indication (TCI) state for indicating beam information used when the terminal receives data; and/or spatial relation info for indicating beam information used when the terminal transmits data.~~

~~39. The apparatus as claimed in any one of claims 35 to 37, wherein the default beam indication information comprises a default TCI state and/or default spatial relation info.~~

~~40. The apparatus as claimed in claim 39, wherein the default TCI state is the same as a TCI state used when receiving the first DCI signaling; or~~

~~the default TCI state is the same as a TCI state used when receiving a control-resource set (CORESET) with a smallest index, and the CORESET and the first DCI signaling come from the same antenna panel.~~

~~41. The apparatus as claimed in claim 39, wherein the default spatial relation info is the same as spatial relation info used when transmitting a latest physical uplink control channel~~

~~(PUCCH), and an antenna panel used when transmitting the PUCCH is the same as an antenna panel used when transmitting uplink data.~~

~~42. The apparatus as claimed in claim 33, wherein the third adding submodule comprises:~~

~~a determining unit configured to determine antenna panel identifiers corresponding to the designated time units; and~~

~~an adding unit configured to add the beam indication information and the antenna panel identifiers into the first DCI signaling.~~

~~43~~12. An apparatus for indicating transmission, for a terminal, comprising:

a receiving module configured to receive a first downlink control information (DCI) signaling from a base station, where the first DCI signaling is configured to indicate that one or more transmission blocks (TBs) are transmitted in a first number of designated time units, and the first number is an integer greater than 1; and

a transmitting module configured to transmit the TBs in the designated time units based on the first DCI signaling;

wherein the first DCI signaling comprises beam indication information corresponding to the designated time units,

transmitting the TBs in the designated time units based on the first DCI signaling comprises:

determining the beam indication information corresponding to the designated time units based on the first DCI signaling; and

transmitting the TBs based on the beam indication information;

(1) wherein a number of pieces of beam indication information to be allocated in the first DCI signaling is a third number, and the third number is equal to the first number, and determining the beam indication information corresponding to the designated time units based on the first DCI signaling comprises: allocating the pieces of beam indication information to the designated time units, respectively, based on the first DCI signaling,

different pieces of beam indication information being allocated to different designated time units; or

(2) wherein a number of pieces of beam indication information to be allocated in the first DCI signaling is less than the first number, and determining the beam indication information corresponding to the designated time units based on the first DCI signaling comprises: allocating, based on the first DCI signaling, one piece of beam indication information to a time unit in the designated time units whose time interval with the first DCI signaling is greater than or equal to a preset threshold, wherein different time unit groups are allocated with different pieces of beam indication information, and the time unit group comprises consecutive time units and/or nonconsecutive time units.

~~44. The apparatus as claimed in claim 43, wherein the designated time unit is a designated mini-slot; and the first DCI signaling comprises a position of start symbol and a number of symbols, of each designated mini-slot; and the transmitting module comprises:~~

~~a mini-slot determining submodule, configured to determine the position of start symbol and the number of symbols, of the each designated mini-slot, based on the first DCI signaling; and~~

~~a first transmitting submodule, configured to transmit the TBs based on the position of start symbol and the number of symbols, of the each designated mini-slot.~~

~~45. The apparatus as claimed in claim 43, wherein the designated time unit is a designated slot; and the first DCI signaling comprises a position of a designated start symbol and a position of a designated end symbol, of each designated slot; and the transmitting module comprises:~~

~~a slot determining submodule, configured to determine the position of the designated start symbol and the position of the designated end symbol, for transmitting the TBs, based on the first DCI signaling; and~~

~~a second transmitting submodule, configured to transmit the TBs based on the position of the designated start symbol and the position of the designated end symbol.~~

~~46. The apparatus as claimed in claim 43, wherein the first DCI signaling comprises beam indication information corresponding to the designated time units; and the transmitting module comprises:~~

~~a first time unit determining submodule, configured to determine the beam indication information corresponding to the designated time units based on the first DCI signaling; and~~

~~a third transmitting submodule, configured to transmit the TBs based on the beam indication information.~~

~~47. The apparatus as claimed in claim 43, wherein the first DCI signaling comprises beam indication information and antenna panel identifiers, corresponding to the designated time units; and the transmitting module comprises:~~

~~a second time unit determining submodule, configured to determine the beam indication information and antenna panel identifiers, corresponding to the designated time units, based on the first DCI signaling; and~~

~~a fourth transmitting submodule, configured to transmit the TBs based on the beam indication information and antenna panel identifiers.~~

~~48. The apparatus as claimed in claim 46 or 47, wherein the beam indication information comprises a transmission configuration indication (TCI) state for indicating beam information used when the terminal receives data; and/or spatial relation info for indicating beam information used when the terminal transmits data.~~

~~49. A non-transitory computer-readable storage medium having stored therein computer programs that are configured to perform the method for indicating transmission as claimed in any one of claims 1 to 18.~~

~~50. A non-transitory computer-readable storage medium having stored therein computer programs that are configured to perform the method for indicating transmission as claimed in~~

~~any one of claims 19 to 24.~~

~~51~~13. A device for indicating transmission, for a base station, comprising:

a processor; and

a memory for storing instructions executable by the processor;

wherein the processor is configured to:

determine to transmit one or more transmission blocks (TBs) in a first number of designated time units, where the first number is an integer greater than 1;

generate a first downlink control information (DCI) signaling for indicating that the one or more TBs are transmitted in the designated time units; and

transmit the first DCI signaling to a terminal, so that the terminal transmits the one or more TBs in the designated time units based on the first DCI signaling;

wherein generating the first DCI signaling comprises:

determining beam indication information corresponding to each designated time unit; and

adding the beam indication information into the first DCI signaling,

(1) wherein a number of pieces of beam indication information to be allocated is a third number, and the third number is equal to the first number, and determining the beam indication information corresponding to the each designated time unit comprises: allocating the pieces of beam indication information to the designated time units, respectively, different pieces of beam indication information being allocated to different designated time units, or

(2) wherein a number of pieces of beam indication information to be allocated is less than the first number, and determining the beam indication information corresponding to the each designated time unit comprises: allocating one piece of beam indication information to a time unit in the designated time units whose time interval with the first DCI signaling is greater than or equal to a preset threshold, wherein different time unit groups are allocated with different pieces of beam indication information, and the time unit group comprises consecutive time units and/or nonconsecutive time units.

~~52~~14. A device for indicating transmission, for a terminal, comprising:

a processor; and

a memory for storing instructions executable by the processor;

wherein the processor is configured to:

receive a first downlink control information (DCI) signaling from a base station, where the first DCI signaling is configured to indicate that one or more transmission blocks (TBs) are transmitted in a first number of designated time units, and the first number is an integer greater than 1; and

transmit the TBs in the designated time units based on the first DCI signaling;

wherein the first DCI signaling comprises beam indication information corresponding to the designated time units,

transmitting the TBs in the designated time units based on the first DCI signaling comprises:

determining the beam indication information corresponding to the designated time units based on the first DCI signaling; and

transmitting the TBs based on the beam indication information;

(1) wherein a number of pieces of beam indication information to be allocated in the first DCI signaling is a third number, and the third number is equal to the first number, and determining the beam indication information corresponding to the designated time units based on the first DCI signaling comprises: allocating the pieces of beam indication information to the designated time units, respectively, based on the first DCI signaling, different pieces of beam indication information being allocated to different designated time units; or

(2) wherein a number of pieces of beam indication information to be allocated in the first DCI signaling is less than the first number, and determining the beam indication information corresponding to the designated time units based on the first DCI signaling comprises: allocating, based on the first DCI signaling, one piece of beam indication information to a time unit in the designated time units whose time interval with the first DCI signaling is greater than or equal to a preset threshold, wherein different time unit groups are allocated

with different pieces of beam indication information, and the time unit group comprises consecutive time units and/or nonconsecutive time units.