

WHAT IS CLAIMED IS:

1. A beam indication method, performed by a user equipment (UE) and characterized in comprising:

acquiring (101) first indication information, wherein the first indication information is configured to indicate a target unified beam; and

performing (102) communication of a physical downlink shared channel (PDSCH) and communication of a physical downlink control channel (PDCCH) with a network device using the target unified beam; or

performing (102) communication of a channel state information-reference signal (CSI-RS) and communication of a sounding reference signal (SRS) with a network device using the target unified beam.

2. The beam indication method according to claim 1, wherein the first indication information comprises a target unified transmission configuration indicator (TCI) state index or a combination of target unified TCI state indexes,

preferably, the target unified TCI state index comprises at least one of a downlink target unified TCI state index, an uplink target unified TCI state index, or an uplink and downlink target unified TCI state index.

3. The beam indication method according to claim 2, wherein the target unified TCI state index corresponds to a transmission and reception point (TRP) index or a coreset pool index.

4. The beam indication method according to claim 2, wherein the target unified TCI state index corresponds to one or more reference signals, and each of the one or more reference signals is configured to indicate at least one of an uplink target unified beam and a downlink target unified beam.

5. The beam indication method according to any one of claims 1 to 4, wherein acquiring (101) the first indication information comprises:

receiving (301) from the network device a control element signaling of a medium access control layer (MAC CE signaling), wherein the MAC CE signaling carries second indication information for activating one or more TCI state indexes, and one TCI state index corresponds to one TRP index or one coreset pool index; and

determining (302) the first indication information according to the one or more TCI state indexes activated by the second indication information.

6. The beam indication method according to claim 5, wherein one TCI state index is activated by the second indication information for one TRP index or one coreset pool index,

and wherein determining the first indication information according to the one or more TCI state indexes activated by the second indication information comprises:

determining the one TCI state index activated by the second indication information as the first indication information.

7. The beam indication method according to claim 5, wherein multiple TCI state indexes are activated by the second indication information for one TRP index or one coreset pool index, and wherein determining the first indication information according to the one or more TCI state indexes activated by the second indication information comprises:

receiving a first downlink control information (DCI) signaling transmitted by the network device, wherein the first DCI signaling carries the first indication information;

wherein the first indication information comprises one target unified TCI state index or index combination among the multiple TCI state indexes activated by the second indication information.

8. The beam indication method according to claim 7, further comprising:

transmitting (402) first hybrid automatic repeat request (HARQ) feedback information to the network device;

wherein the first HARQ feedback information is configured to indicate to the network device whether the first DCI signaling is successfully received; and an HARQ feedback resource used for transmitting the first HARQ feedback information is configured by the first DCI signaling, or is default.

9. The beam indication method according to claim 8, further comprising:

receiving (403), using the target unified beam on a physical downlink control channel (PDCCH), a second DCI signaling transmitted by the network device;

wherein the second DCI signaling carries resource configuration information for configuring a communication resource for a reference signal, a physical random access channel (PRACH), a physical uplink shared channel (PUSCH), a physical uplink control channel (PUCCH) and/or a physical downlink shared channel (PDSCH).

10. The beam indication method according to any one of claims 7 to 9, wherein the first DCI signaling further carries resource configuration information for configuring a communication resource for at least one of a reference signal, a PRACH, a PUSCH, a PUCCH or a PDSCH.

11. The beam indication method according to claim 10, further comprising: transmitting (502) second HARQ feedback information to the network device;

wherein the second HARQ feedback information comprises:

first feedback information, configured to feed back whether the first DCI signaling is successfully received; and/or

second feedback information, configured to feed back whether the PDSCH and/or a downlink reference signal configured by the first DCI signaling is successfully received.

12. The beam indication method according to claim 10, further comprising:

performing the communication with the network device using the communication resource configured according to the resource configuration information carried in the first DCI signaling.

13. A beam indication method, performed by a network device and characterized in comprising:

transmitting (601) first indication information to a user equipment (UE),

wherein the first indication information is configured to indicate a target unified beam to enable the UE to perform communication of a physical downlink shared channel (PDSCH) and communication of a physical downlink control channel (PDCCH) with the network device using the target unified beam; or perform communication of a channel state information-reference signal (CSI-RS) and communication of a sounding reference signal (SRS) with the network device using the target unified beam.

14. The beam indication method according to claim 13, wherein the first indication information comprises a target unified transmission configuration indicator (TCI) state index or a combination of target unified TCI state indexes.

15. The beam indication method according to claim 14, wherein the target unified (TCI) state index corresponds to a transmission and reception point (TRP) index or a coreset pool index,

preferably, the target unified TCI state index comprises at least one of a downlink target unified TCI state index, an uplink target unified TCI state index, or an uplink and downlink target unified TCI state index.

16. The beam indication method according to claim 14, wherein the target unified TCI state index corresponds to one or more reference signals, and each of the one or more reference signals is configured to indicate at least one of an uplink target unified beam and a downlink target unified beam.

17. The beam indication method according to any one of claims 13 to 16, wherein transmitting (601) the first indication information to the user equipment (UE) comprises:

transmitting (801) to the UE a control element signaling of a medium access control layer (MAC CE signaling), wherein the MAC CE signaling carries second indication

information for activating one or more TCI state indexes, and one TCI state index corresponds to one TRP index or one coreset pool index;

wherein the one or more TCI state indexes activated by the second indication information are configured to determine the first indication information.

18. The beam indication method according to claim 17, wherein one TCI state index is activated by the second indication information for one TRP index or one coreset pool index; and

wherein the first indication information represents the one TCI state index activated by the second indication information.

19. The beam indication method according to claim 17, wherein multiple TCI state indexes are activated by the second indication information for one TRP index or one coreset pool index, and

wherein transmitting the first indication information to the user equipment (UE) further comprises:

transmitting a first downlink control information DCI signaling to the UE, wherein the first DCI signaling carries the first indication information;

wherein the first indication information comprises one target unified TCI state index or index combination among the multiple TCI state indexes activated by the second indication information.

20. The beam indication method according to claim 19, further comprising:

receiving (902) first hybrid automatic repeat request (HARQ) feedback information transmitted by the UE;

wherein the first HARQ feedback information is configured to indicate to the network device whether the first DCI signaling is successfully received; and an HARQ feedback resource used for transmitting the first HARQ feedback information is configured by the first DCI signaling, or is default.

21. The beam indication method according to claim 20, further comprising:

transmitting (903) a second DCI signaling to the UE on a physical downlink control channel (PDCCH), so that the UE receives the second DCI signaling using the target unified beam;

wherein the second DCI signaling carries resource configuration information for configuring a communication resource for a reference signal, a physical random access channel (PRACH), a physical uplink shared channel (PUSCH), a physical uplink control channel (PUCCH) and/or a physical downlink shared channel (PDSCH).

22. A beam indication apparatus, applied to a user equipment (UE) and comprising:
an acquiring module, configured to acquire first indication information, wherein the first indication information is configured to indicate a target unified beam; and

an executing module, configured to perform communication of a physical downlink shared channel (PDSCH) and communication of a physical downlink control channel (PDCCH) with a network device using the target unified beam; or perform communication of a channel state information-reference signal (CSI-RS) and communication of a sounding reference signal (SRS) with a network device using the target unified beam.

23. A beam indication apparatus, applied to a network device and comprising:

an indication module, configured to transmit first indication information to a user equipment (UE),

wherein the first indication information is configured to indicate a target unified beam to enable the UE to perform communication of a physical downlink shared channel (PDSCH) and communication of a physical downlink control channel (PDCCH) with a network device using the target unified beam; or performing communication of a channel state information-reference signal (CSI-RS) and communication of a sounding reference signal (SRS) with a network device using the target unified beam.

24. A communication device, comprising:

a transceiver;

a memory (1400); and

a processor (1300), connected to the transceiver and the memory (1400), and configured to control wireless signal transmission and reception of the transceiver by executing computer-executable instructions stored in the memory, and implement the method according to any one of claims 1 to 12 or the method according to any one of claims 13 to 21.

25. A computer storage medium having stored therein computer-executable instructions that, when executed by a processor (1300), cause the method according to any one of claims 1 to 12 or the method according to any one of claims 13 to 21 to be implemented.