

CLAIMS

What is claimed is:

1. A beam failure handling method applied to a terminal, comprising:
triggering transmission of at least one of beam failure recovery request BFRQ information and a scheduling request SR for BFRQ if a beam failure occurs in a secondary cell SCell, wherein the terminal has the following related to the SCell:

after the BFRQ information is transmitted, triggering transmission of subsequent BFRQ information is forbidden unconditionally or triggering transmission of an SR for BFRQ is forbidden unconditionally.

2. The method according to claim 1, wherein
if a fourth condition is met, the forbidding of the triggering transmission of at least one of subsequent BFRQ information and an SR for BFRQ is lifted.

3. The method according to claim 2, wherein the fourth condition comprises at least one of the following:

the SCell is released, the SCell is deactivated, a BWP is switched, and beam failure recovery succeeds.

4. The method according to claim 3, wherein that the beam failure recovery succeeds comprises at least one of the following:

a physical downlink control channel PDCCH beam is switched;
a beam failure detection reference signal BFD RS beam is switched;
a physical downlink shared channel PDSCH beam is switched;
first downlink control information DCI is received from a network side;
first radio resource control RRC signaling is received from a network side; and
a first media access control control element MAC CE command is received from a network side.

5. The method according to claim 4, wherein the first DCI has at least one of the following features:

the first DCI is transmitted on a dedicated control resource for beam failure recovery;
a format of the first DCI is a DCI format with cyclic redundancy check CRC scrambled by a radio network temporary identifier RNTI for BFR;

the first DCI is used for indicating beam information of a downlink channel or reference signal of the SCell in which the beam failure occurs;

the first DCI is used for indicating performing beam measurement in the SCell in which the beam failure occurs; and

the first DCI is used for transmitting acknowledgment information for the BFRQ information;

and/or

the first RRC signaling has at least one of the following features:

the first RRC signaling comprises release signaling for the SCell in which the beam failure occurs; and

the first RRC signaling is used for configuring beam information of a downlink channel or reference signal of the SCell in which the beam failure occurs;

and/or

the first MAC CE command has at least one of the following features:

the first MAC CE command is used for activating beam information of a downlink channel or reference signal of the SCell in which the beam failure occurs;

the first MAC CE command comprises deactivation signaling for the SCell in which the beam failure occurs; and

the first MAC CE command is used for transmitting acknowledgment information for the BFRQ information.

6. The method according to claim 1, wherein the SR is a dedicated SR, and the SR is transmitted on a network-configured dedicated physical uplink control channel PUCCH resource for BFR.

7. The method according to claim 1, wherein the BFRQ information comprises at least one of the following:

index information and new beam information of the SCell in which the beam failure occurs.

8. A terminal, comprising:

a triggering module, configured to trigger transmission of at least one of BFRQ information and a scheduling request SR for BFRQ if a beam failure occurs in an SCell, wherein

the terminal has the following related to the SCell:

after the BFRQ information is transmitted, triggering transmission of subsequent BFRQ information is forbidden unconditionally or triggering transmission of an SR for BFRQ is forbidden unconditionally.

9. The terminal according to claim 8, wherein

if a fourth condition is met, the forbidding of the triggering transmission of at least one of subsequent BFRQ information and an SR for BFRQ is lifted.

10. The terminal according to claim 9, wherein the fourth condition comprises at least one of the following:

the SCell is released, the SCell is deactivated, a BWP is switched, and beam failure recovery succeeds.

11. The terminal according to claim 10, wherein that the beam failure recovery succeeds comprises at least one of the following:

a physical downlink control channel, PDCCH, beam is switched;

a beam failure detection reference signal, BFD RS, beam is switched;

a physical downlink shared channel, PDSCH, beam is switched;

first downlink control information, DCI, is received from a network side;

first radio resource control, RRC, signaling is received from a network side; and

a first media access control control element, MAC CE, command is received from a network side.

12. The terminal according to claim 11, wherein the first DCI has at least one of the following features:

the first DCI is transmitted on a dedicated control resource for beam failure recovery;

a format of the first DCI is a DCI format with cyclic redundancy check, CRC, scrambled by a radio network temporary identifier, RNTI for BFR;

the first DCI is used for indicating beam information of a downlink channel or reference signal of the SCell in which the beam failure occurs;

the first DCI is used for indicating performing beam measurement in the SCell in which the beam failure occurs; and

the first DCI is used for transmitting acknowledgment information for the BFRQ information;

and/or

the first RRC signaling has at least one of the following features:

the first RRC signaling comprises release signaling for the SCell in which the beam failure occurs; and

the first RRC signaling is used for configuring beam information of a downlink channel or reference signal of the SCell in which the beam failure occurs;

and/or

the first MAC CE command has at least one of the following features:

the first MAC CE command is used for activating beam information of a downlink channel or reference signal of the SCell in which the beam failure occurs;

the first MAC CE command comprises deactivation signaling for the SCell in which the beam failure occurs; and

the first MAC CE command is used for transmitting acknowledgment information for the BFRQ information.

13. The terminal according to claim 8, wherein the SR is a dedicated SR, and the SR is transmitted on a network-configured dedicated physical uplink control channel, PUCCH, resource for BFR.

14. The terminal according to claim 8, wherein the BFRQ information comprises at least one of the following:

index information and new beam information of the SCell in which the beam failure occurs.

15. A terminal, comprising a memory, a processor, and a program stored in the memory and capable of running on the processor, wherein when the program is executed by the processor, the steps of the beam failure handling method according to any one of claims 1 to 7 are implemented.

16. A computer-readable storage medium, wherein the computer-readable storage medium stores a computer program, and when the computer program is executed by a processor, the steps of the beam failure handling method according to any one of claims 1 to 7 are implemented.