CLAIMS

What is claimed is:

1. A beam failure recovery method, performed by a terminal and comprising:

measuring a beam failure detection reference signal BFD RS, wherein the BFD RS corresponds to a plurality of pieces of first object information, and the first object information comprises at least one of the following: a transmission and reception point TRP identifier, CORESETPoolIndex information, a group identifier, a cell identity, and a physical cell identifier PCI;

determining a target event based on a measurement result of the BFD RS; and

sending beam failure recovery request BFRQ information;

wherein the target event is that measurement results of all BFD RSs corresponding to a primary cell satisfy a first preset condition, and the sending BFRQ information comprises:

sending the BFRQ information by using a contention-free random access RACH resource, or

sending the BFRQ information by using a contention-based RACH resource;

wherein the target event is that measurement results of all BFD RSs corresponding to a secondary cell satisfy a second preset condition, and the sending BFRQ information comprises:

when there is an available uplink grant, sending the BFRQ information by using the uplink grant, or

when there is no available uplink grant, sending the BFRQ information by using an uplink grant requested from a network;

wherein the target event is that measurement results of part of BFD RSs satisfy a third preset condition, and the sending BFRQ information comprises any one of the following:

sending the BFRQ information based on preset object information;

sending the BFRQ information by using a preset resource; and

sending the BFRQ information by using a preset resource based on preset object information.

2. The method according to claim 1, wherein the sending the BFRQ information by using a contention-free RACH resource comprises:

determining a target RACH resource, and

determining, based on a correspondence between RACH resources and first object information, target object information corresponding to the target RACH resource, and sending the BFRQ information based on the target object information;or,

determining a target RACH resource, and

determining, based on a correspondence between RACH resources and first object information, target object information corresponding to the target RACH resource, and sending the BFRQ information based on the target object information.

3. The method according to claim 1, wherein when there is an available uplink grant, the uplink grant corresponds to any one of the first object information.

4. The method according to claim 1, wherein the sending the BFRQ information by using an uplink grant requested from a network comprises:

sending a scheduling request SR; and

receiving a response sent by the network, and sending the BFRQ information by using an uplink grant indicated by the response, wherein the SR and the response correspond to same or different first object information.

5. The method according to claim 4, wherein the sending an SR comprises any one of the following:

determining third object information based on a first correspondence, and sending the SR based on the third object information;

sending the SR based on any one of the first object information; and

sending the SR simultaneously or in turn based on the plurality of pieces of first object information; wherein

the first correspondence comprises any one of the following:

a correspondence between first object information and SR configuration information;

a correspondence between first object information and PUCCH resources for BFR in SR configuration information; and

a correspondence between first object information and spatial relation information of PUCCH resources for BFR in SR configuration information.

6. The method according to claim 1, wherein if no SR is configured or the number of times of sending a configured SR reaches a preset threshold, the sending the BFRQ information by using an uplink grant requested from a network comprises:

requesting the uplink grant from the network by using a contention-based RACH resource on a primary cell, and sending the BFRQ information by using the uplink grant.

7. The method according to claim 1, wherein the preset object information is any one of the following:

first object information corresponding to the part of BFD RSs;

first object information other than the first object information corresponding to the part of BFD RSs; and

any one of the first object information corresponding to the measured BFD RSs.

8. The method according to claim 1, wherein the preset resource is any one of the following:

a RACH resource; and

an uplink resource for transmitting a medium access control control element MAC CE.

9. The method according to claim 8, wherein when the preset resource is an uplink resource for transmitting the MAC CE, the sending the BFRQ information by using a preset resource comprises:

when there is an available uplink grant, sending the BFRQ information by using the uplink grant; or

when there is no available uplink grant, sending the BFRQ information by using an uplink grant requested from a network.

10. The method according to claim 9, wherein when there is an available uplink grant, a priority of a first uplink grant is higher than a priority of a second uplink grant, the first uplink grant corresponds to first object information corresponding to the part of BFD RSs, and the second uplink grant corresponds to first object information other than the first object information corresponding to the part of BFD RSs.

11. The method according to claim 9, wherein the sending the BFRQ information by using an uplink grant requested from a network comprises:

if a PUCCH resource for BFR is configured, sending the SR by using the PUCCH resource for BFR; and

receiving a response sent by the network, and sending the BFRQ information by using an uplink grant indicated by the response, wherein the PUCCH resource and the response correspond to same or different first object information.

12. The method according to claim 11, wherein the sending the BFRQ information by using an uplink grant requested from a network further comprises:

if no PUCCH resource for BFR is configured, requesting an uplink grant from the network by using a contention-based RACH resource, and sending the BFRQ information by using the requested uplink grant.

13. The method according to claim 11, wherein the sending the SR by using the PUCCH resource for BFR comprises:

determining fourth object information based on a second correspondence, and sending the SR by using the PUCCH resource based on the fourth object information;

the second correspondence comprises any one of the following:

a correspondence between first object information and SR configuration information;

a correspondence between first object information and PUCCH resources for BFR in SR configuration information; and

a correspondence between first object information and spatial relation information of PUCCH resources for BFR in SR configuration information.

14. The method according to claim 1, wherein after the sending BFRQ information, the method further comprises:

receiving BFRR information based on first object information corresponding to the part of BFD RSs; or

receiving BFRR information based on any one piece of first object information corresponding to the measured BFD RSs.

15. The method according to claim 1, wherein after the sending BFRQ information,

the method further comprises:

based on new beam RS information reported in the BFRQ information, determining beam information of a channel corresponding to same first object information as the part of BFD RSs, and/or determining beam information of a channel corresponding to second object information.

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

first object information corresponding to the part of BFD RSs, and new beam RS information.

17. The method according to claim 1, wherein after the determining a target event, the method further comprises at least one of the following:

monitoring CORESET#0 based on target object information;

changing an anchor (anchor) object based on the target object information; and

based on CORESETPoolIndex information corresponding to the target object information, updating CORESETPoolIndex information corresponding to a CORESET that has been configured.

18. A terminal, comprising:

a measurement module, configured to measure a BFD RS, wherein the BFD RS corresponds to a plurality of pieces of first object information, and the first object information comprises at least one of the following: a transmission and reception point TRP identifier, CORESETPoolIndex information, a group identifier, a cell identity, and a PCI;

a first determining module, configured to determine a target event based on a measurement result of the BFD RS; and

a first sending module, configured to send BFRQ information;

wherein the target event is that measurement results of all BFD RSs corresponding to a primary cell satisfy a first preset condition, and the first sending module is configured to:

send the BFRQ information by using a contention-free random access RACH resource, or

send the BFRQ information by using a contention-based RACH resource;

wherein the target event is that measurement results of all BFD RSs corresponding to a secondary cell satisfy a second preset condition, and the first sending module is configured to:

when there is an available uplink grant, send the BFRQ information by using the uplink grant, or

when there is no available uplink grant, send the BFRQ information by using an uplink grant requested from a network;

wherein the target event is that measurement results of part of BFD RSs satisfy a third preset condition, and the first sending module is configured to perform any one of the following:

sending the BFRQ information based on preset object information;

sending the BFRQ information by using a preset resource; and

sending the BFRQ information by using a preset resource based on preset object information.

19. A network device, comprising:

a third receiving module, configured to receive BFRQ information sent by a terminal; wherein

the BFRQ information is sent after the terminal determines a target event based on measurement results of BFD RSs, the BFD RS corresponds to a plurality of pieces of first object information, and the first object information comprises at least one of the following: a TRP identifier, CORESETPoolIndex information, a group identifier, a cell identity, and a PCI;

wherein the target event is that measurement results of all BFD RSs corresponding to a primary cell satisfy a first preset condition, and the BFRQ information is sent by using a contention-free random access RACH resource, or

the BFRQ information is sent by using a contention-based RACH resource;

wherein the target event is that measurement results of all BFD RSs corresponding to a secondary cell satisfy a second preset condition,

when there is an available uplink grant, the BFRQ information is sent by using the

uplink grant, or

when there is no available uplink grant, the BFRQ information is sent by using an uplink grant requested from a network;

wherein the target event is that measurement results of part of BFD RSs satisfy a third preset condition, and the BFRQ information is sent by any one of the following manner:

the BFRQ information is sent based on preset object information;

the BFRQ information is sent by using a preset resource; and

the BFRQ information is sent by using a preset resource based on preset object information.