METHOD AND DEVICE FOR ALLOCATING BEAM FAILURE DETECTION RESOURCES

TECHNICAL FIELD

The disclosure relates to the field of communication technologies, and in particular to a method for allocating beam failure detection resources, an apparatus for allocating beam failure detection resources and a storage medium.

BACKGROUND

In a new radio (NR) communication system, in order to ensure coverage area and resist path loss, generally, it is necessary to transmit and receive data based on beams. In the NR, since control channels also need to transmit and receive data based on beams, when a terminal moves or a direction of an antenna rotates, beam failure may occur for the beams currently configured for the terminal for transmission and reception.

In the related art, the terminal determines a reference signal (RS) corresponding to a transmission configuration indication (TCI) state of a quasi co-location (QCL) of a component carrier (CC)/bandwidth part (BWP) control channel resource set (CORESET) as a beam failure detection (BFD) resource. The RS resources configured to detect beam failure are also referred to as BFD RS resources. If the terminal detects that channel qualities of all BFD RSs in the BFD RS resources are less than a preset threshold, it indicates that a beam failure has occurred.

At present, a number of RS resources that can be selected by the terminal as BFD RS may be greater than a number of RS resources supported by the terminal. In this case, how to select RS resources for beam failure detection is a problem to be solved.

SUMMARY

In order to solve the existing problems in the related art, the disclosure provides a method for allocating beam failure detection resources, an apparatus for allocating beam failure detection resources and a storage medium.

Embodiments of a first aspect of the disclosure provide a method for allocating beam failure detection resources. The method includes: determining CORESETs configured by a network device for a terminal; selecting target CORESETs with a number of BFD resources in response to

WHAT IS CLAIMED IS:

1. A method for allocating beam failure detection resources, comprising:

determining control channel resource sets (CORESETs) configured by a network device for a terminal;

in response to a number of the CORESETs being greater than a number of beam failure detection (BFD) resources supported by the terminal, selecting target CORESETs with a number of the BFD resources; and

determining reference signal (RS) resources corresponding to transmission configuration indication (TCI) states of quasi co-locations (QCLs) of the selected target CORESETs as BFD RS resources.

2. The method of claim 1, wherein selecting the target CORESETs with the number of BFD resources comprises:

dividing the configured CORESETs into groups, wherein the CORESETs belonging to a same transmission and reception point (TRP) are divided into one group; and

selecting the target CORESETs according to a number of CORESETs in each group.

3. The method of claim 2, wherein dividing the configured CORESETs into groups comprises:

determining whether each CORESET is configured with a higher layer signaling index;

dividing the CORESETs having the same higher layer signaling index into the same group in response to each CORESET being configured with the higher layer signaling index; and

dividing all the CORESETs into one group in response to an CORESET not being configured with the higher layer signaling index.

4. The method of claim 2 or 3, wherein selecting the target CORESETs according to the number of CORESETs in each group, comprises:

in response to a number of CORESETs in the group being less than or equal to the number of BFD resources supported by the terminal, determining all the CORESETs in the group as the target CORESETs; and

in response to the number of CORESETs in the group being greater than the number of

BFD resources supported by the terminal, selecting the CORESETs with the number of BFD resources in a specified priority order as the target CORESETs.

5. The method of claim 4, wherein the specified priority order comprises one or more of:

a priority order of identifier (ID) numbers of the CORESETs from small to large;

a priority order of priorities corresponding to a cell common search space CORESET, a group common search space CORESET, and a user specific search space CORESET from high to low; and

a priority order of intervals of monitoring the CORESETs by the terminal from small to large.

6. A device for allocating beam failure detection resources, comprising:

a processor;

a memory configured to store instructions executable by the processor; wherein,

the processor is configured to:

determine control channel resource sets (CORESETs) configured by a network device for a terminal;

in response to a number of the CORESETs being greater than a number of beam failure detection (BFD) resources supported by the terminal, select target CORESETs with a number of the BFD resources; and

determine reference signal (RS) resources corresponding to transmission configuration indication (TCI) states of quasi co-locations (QCLs) of the selected target CORESETs as BFD RS resources.

7. The device of claim 6, wherein the processor is configured to:

divide the configured CORESETs into groups, wherein the CORESETs belonging to a same transmission and reception point (TRP) are divided into one group; and

select the target CORESETs according to a number of CORESETs in each group.

8. The device of claim 7, wherein the processor is configured to:

determine whether each CORESET is configured with a higher layer signaling index;

divide the CORESETs having the same higher layer signaling index into the same group

in response to each CORESET being configured with the higher layer signaling index; and

divide all the CORESETs into one group in response to an CORESET not being configured with the higher layer signaling index.

9. The device of claim 7 or 8, wherein the processor is configured to:

in response to a number of CORESETs in the group being less than or equal to the number of BFD resources supported by the terminal, determine all the CORESETs in the group as the target CORESETs; and

in response to the number of CORESETs in the group being greater than the number of BFD resources supported by the terminal, select the CORESETs with the number of BFD resources in a specified priority order as the target CORESETs.

10. The device of claim 9, wherein the specified priority order comprises one or more of:

a priority order of identifier (ID) numbers of the CORESETs from small to large;

a priority order of priorities corresponding to a cell common search space CORESET, a group common search space CORESET, and a user specific search space CORESET from high to low; and

a priority order of intervals of monitoring the CORESETs by the terminal from small to large.