

CLAIMS

1. A method for downlink control information (DCI) transmission, applied to a communication device and comprising:

performing a transmission of DCI, wherein the DCI comprises frequency domain resource allocation (FDRA) information, the FDRA information indicates K frequency domain resources, the K frequency domain resources are divided into N frequency domain resource groups, the N frequency domain resource groups are N groups of frequency domain resources used by the communication device for a physical downlink shared channel (PDSCH) transmission, the N frequency domain resource groups respectively correspond to N spatial information indications, the spatial information indications comprise TCI states, and N is an integer which is greater than or equal to 2; wherein

when a precoding granularity is configured as wideband, the frequency domain resource group corresponding to each TCI state comprises continuous frequency domain resources; or,

the K frequency domain resources are divided into N frequency domain resource groups by PRG or RBG as a basis unit.

2. The method according to claim 1, wherein even RBGs or even PRGs in the K frequency domain resources are divided into a first frequency domain resource group, odd RBGs or odd PRGs in the K frequency domain resources are divided into a second frequency domain resource group.

3. The method according to claim 1, wherein the K frequency domain resources are divided into the N frequency domain resource groups in a continuous manner according to a first proportion.

4. The method according to claim 3, wherein the K frequency domain resources are averagely allocated to N frequency domain resource groups, the continuous K/N frequency domain resources are divided into one frequency domain resource group.

5. A communication device, comprising: a memory, a processor, and a program stored in the memory and capable of running on the processor, wherein the program is executed by the processor to implement:

performing a transmission of DCI, wherein the DCI comprises frequency domain resource allocation (FDRA) information, the FDRA information indicates K frequency domain resources, the K frequency domain resources are divided into N frequency domain resource groups, the N frequency domain resource groups are N groups of frequency domain resources used by the

communication device for a physical downlink shared channel (PDSCH) transmission, the N frequency domain resource groups respectively correspond to N spatial information indications, the spatial information indications comprise TCI states, and N is an integer which is greater than or equal to 2; wherein

when a precoding granularity is configured as wideband, the frequency domain resource group corresponding to each TCI state comprises continuous frequency domain resources; or,

the K frequency domain resources are divided into N frequency domain resource groups by PRG or RBG as a basis unit.

6. The communication device according to claim 5, wherein even RBGs or even PRGs in the K frequency domain resources are divided into a first frequency domain resource group, odd RBGs or odd PRGs in the K frequency domain resources are divided into a second frequency domain resource group.

7. The communication device according to claim 5, wherein the K frequency domain resources are divided into the N frequency domain resource groups in a continuous manner according to a first proportion.

8. The communication device according to claim 7, wherein the K frequency domain resources are averagely allocated to N frequency domain resource groups, the continuous K/N frequency domain resources are divided into one frequency domain resource group.

9. A computer readable storage medium, storing a computer program, wherein the computer program is executed by a processor to implement:

performing a transmission of DCI, wherein the DCI comprises frequency domain resource allocation (FDRA) information, the FDRA information indicates K frequency domain resources, the K frequency domain resources are divided into N frequency domain resource groups, the N frequency domain resource groups are N groups of frequency domain resources used by the communication device for a physical downlink shared channel (PDSCH) transmission, the N frequency domain resource groups respectively correspond to N spatial information indications, the spatial information indications comprise TCI states, and N is an integer which is greater than or equal to 2; wherein

when a precoding granularity is configured as wideband, the frequency domain resource group corresponding to each TCI state comprises continuous frequency domain resources; or,

the K frequency domain resources are divided into N frequency domain resource groups by PRG or RBG as a basis unit.