CLAIMS

WHAT IS CLAIMED IS:

1. A data transmission method, performed by a user equipment (UE), comprising:

determining a current data transmission phase; and

using one or more Configured Grant - Small Data Transmission (CG-SDT) resources in a CG SDT process according to the current data transmission phase;

wherein using the one or more CG-SDT resources in the CG SDT process according to the current data transmission phase comprises:

after the UE sends data using a first CG-SDT resource, determining to no longer send data using another CG-SDT resource in response to no feedback information being received from a network device, wherein the current data transmission phase is an initial data transmission phase.

2. The method as claimed in claim 1, further comprising:

receiving at least one CG-SDT resource configured by a network device.

3. The method as claimed in claim 2, wherein the at least one CG-SDT resource is configured by a radio resource control (RRC) release message.

4. The method as claimed in claim 1, further comprising:

determining that a retransmission condition is satisfied, and using a retransmission CG-SDT resource to retransmit the data.

5. The method as claimed in any of claims 1 to 3, wherein the current data transmission phase is a subsequent data transmission phase, and using the one or more CG-SDT resources in the CG SDT process according to the current data transmission phase comprises:

using a plurality of CG-SDT resources for transmission.

6. The method as claimed in claim 5, wherein the plurality of CG-SDT resources correspond to the same beam, or the plurality of CG-SDT resources belong to the same CG-SDT resource group.

7. The method as claimed in claim 5, wherein the plurality of CG-SDT resources correspond the same beam as a CG-SDT resource used at an initial data transmission phase, or the plurality of CG-SDT resources belong to the same CG-SDT resource group as the CG-SDT resource used at the initial data transmission phase.

8. The method as claimed in any of claims 1 to 7, further comprising:

monitoring control information of a network device using a specific physical downlink control channel (PDCCH) resource.

9. The method as claimed in any of claims 1 to 7, further comprising:

determining that the current data transmission phase is a subsequent data transmission phase;

and

monitoring control information of a network device using a specific PDCCH resource.

10. The method as claimed in claim 8 or 9, wherein the specific PDCCH resource is configured by the network device.

11. The method as claimed in claim 8 or 9, wherein the specific PDCCH resource comprises at least one of:

a specific resource identifier;

a specific time domain resource configuration;

a specific frequency domain resource configuration;

a PDCCH resource the same as a PDCCH resource for receiving feedback information from the network device at an initial data transmission phase; or

a downlink signal associated with the specific PDCCH resource being the same as a downlink signal associated with a CG SDT resource used by the UE at the initial data transmission phase.

12. A data transmission method, performed by a network device, comprising:

sending at least one Configured Grant - Small Data Transmission (CG-SDT) resource to a user equipment (UE);

wherein the UE uses the at least one CG-SDT resource in a CG SDT process according to a current data transmission phase;

wherein the at least one CG-SDT resource are configured for the UE to:

after the UE sends data using a first CG-SDT resource, determine to no longer send data using another CG-SDT resource in response to no feedback information being received from a network device, wherein the current data transmission phase is an initial data transmission phase.

13. The method as claimed in claim 12, wherein sending the at least one CG-SDT resource to the UE comprises:

sending a first radio resource control (RRC) release message to the UE, wherein the at least one CG-SDT resource is configured by the first RRC release message.

14. The method as claimed in claim 12 or 13, further comprising:

sending a configured specific physical downlink control channel (PDCCH) resource to the UE, wherein the specific PDCCH resource is configured to monitor control information of the network device.

15. The method as claimed in claim 14, wherein sending the configured specific PDCCH resource to the UE comprises:

sending a second RRC release message to the UE, wherein the specific PDCCH resource is configured by the second RRC release message.

16. The method as claimed in claim 14, wherein sending the configured specific PDCCH resource to the UE comprises:

sending system information to the UE, wherein the specific PDCCH resource is configured by the system information.

17. A data transmission apparatus, comprising:

a determining module, configured to determine a current data transmission phase; and

a processing module, configured to use one or more Configured Grant - Small Data Transmission (CG-SDT) resources in a CG SDT process according to the current data transmission phase;

wherein the processing module is configured to:

after the UE sends data using a first CG-SDT resource, determine to no longer send data using another CG-SDT resource in response to no feedback information being received from a network device, wherein the current data transmission phase is an initial data transmission phase.

18. A user equipment, comprising:

a transceiver;

a memory; and

a processor connected to the transceiver and the memory, respectively, wherein the processor is configured to perform the data transmission method as claimed in any of claims 1 to 11, or perform the data transmission method as claimed in any of claims 12 to 16.

19. A non-transitory computer-readable storage medium having computer-executable instructions stored thereon that, when executed by a processor, are capable to perform the data transmission method as claimed in any of claims 1 to 11, or perform the data transmission method as claimed in any of claims 12 to 16.