WHAT IS CLAIMED IS:

1. A method for sending downlink data, comprising:

sending by a base station downlink schedule information to a terminal, wherein the downlink schedule information is configured to inform the terminal of configuration information used to send downlink data through n antenna panels of the base station and comprises a hybrid automatic repeat request (HARQ) process number corresponding to the downlink data sent through each of the n antenna panels, where n is an integer greater than 1, wherein the n antenna panels are associated with n transmitter receiver points (TRPs) respectively; and

sending by the base station the downlink data to the terminal through the n antenna panels;

wherein the downlink data sent through the n antenna panels corresponds to a same HARQ entity and has a same HARQ process number, and downlink control information (DCI) sent by the base station through one antenna panel schedules a plurality of antenna panels.

2. The method of claim 1, wherein the downlink data is sent through an i^{th} antenna panel of the n antenna panels in one of the following way:

using identification information of the i^{th} antenna panel to scramble;

or

using a frequency domain resource or a code domain resource of a demodulation reference signal (DMRS) which is used for demodulating a PDSCH and corresponds to the i^{th} antenna panel to send;

where i is a positive integer less than or equal to n.

3. A method for receiving downlink data, comprising:

receiving by a terminal downlink schedule information sent by a base station, wherein the downlink schedule information is configured to inform the terminal of configuration information used to send downlink data through n antenna panels of the base station and comprises a hybrid automatic repeat request (HARQ) process number corresponding to the downlink data sent through each of the n antenna panels, where n is an integer greater than 1, wherein the n antenna panels are associated with n transmitter receiver points (TRPs)

respectively; and

receiving by the terminal the downlink data based on the downlink schedule information;

wherein the downlink data received by the terminal and sent by the base station through the n antenna panels corresponds to a same HARQ entity and has a same HARQ process number, and downlink control information (DCI) received by the terminal and sent by the base station through one antenna panel is configured to schedule a plurality of antenna panels.

4. An apparatus for sending downlink data, applicable in a base station, comprising:

an information sending module, configured to send downlink schedule information to a terminal, wherein the downlink schedule information is configured to inform the terminal of configuration information used to send downlink data through n antenna panels of the base station and comprises a hybrid automatic repeat request (HARQ) process number corresponding to the downlink data sent through each of the n antenna panels, where n is an integer greater than 1, wherein the n antenna panels are associated with n transmitter receiver points (TRPs) respectively; and

a data sending module, configured to send the downlink data to the terminal through the n antenna panels;

wherein the downlink data sent through the n antenna panels corresponds to a same HARQ entity and has a same HARQ process number, and downlink control information (DCI) sent by the base station through one antenna panel schedules a plurality of antenna panels.

5. An apparatus for receiving downlink data, applicable in a terminal, comprising:

an information receiving module, configured to receive downlink schedule information sent by a base station, wherein the downlink schedule information is configured to inform the terminal of configuration information used to send downlink data through n antenna panels of the base station and comprises a hybrid automatic repeat request (HARQ) process number corresponding to the downlink data sent through each of the n antenna panels, where n is an integer greater than 1, wherein the n antenna panels are associated with n transmitter receiver points (TRPs) respectively; and

a data receiving module, configured to receive the downlink data based on the downlink schedule information;

wherein the downlink data sent through the n antenna panels corresponds to a same HARQ entity and has a same HARQ process number, and downlink control information (DCI) sent by the base station through one antenna panel schedules a plurality of antenna panels.

6. An apparatus for sending downlink data, applicable in a base station, comprising:

a processor; and

a memory configured to store instructions executable by the processor;

wherein the processor is configured to perform:

sending downlink schedule information to a terminal, wherein the downlink schedule information is configured to inform the terminal of configuration information used to send downlink data through n antenna panels of the base station and comprises a hybrid automatic repeat request (HARQ) process number corresponding to the downlink data sent through each of the n antenna panels, where n is an integer greater than 1, wherein the n antenna panels are associated with n transmitter receiver points (TRPs) respectively; and

sending the downlink data to the terminal through the n antenna panels;

wherein the downlink data sent through the n antenna panels corresponds to a same HARQ entity and has a same HARQ process number, and downlink control information (DCI) sent by the base station through one antenna panel schedules a plurality of antenna panels.

7. An apparatus for receiving downlink data, applicable in a terminal, comprising:

a processor; and

a memory configured to store instructions executable by the processor;

wherein the processor is configured to perform:

receiving downlink schedule information sent by a base station, wherein the downlink schedule information is configured to inform the terminal of configuration information used to send downlink data through n antenna panels of the base station and comprises a hybrid automatic repeat request (HARQ) process number corresponding to the downlink data sent through each of the n antenna panels, where n is an integer greater than 1, wherein the n antenna panels are associated with n transmitter receiver points (TRPs) respectively; and

receiving the downlink data based on the downlink schedule information;

wherein the downlink data sent through the n antenna panels corresponds to a same HARQ entity and has a same HARQ process number, and downlink control information (DCI) sent by the base station through one antenna panel schedules a plurality of antenna panels.

8. A non-transitory computer-readable storage medium, having computer programs stored thereon, wherein when the computer programs are executed by a processor, steps of the method for sending downlink data according to any of claims 1-2.

9. A non-transitory computer-readable storage medium, having computer programs stored thereon, wherein when the computer programs are executed by a processor, steps of the method for receiving downlink data according to claim 3 are implemented.