

CLAIMS

1. A signal processing method, comprising:

5 determining, by a terminal device, a Cell identifier (ID) corresponding to a first port set for a first downlink signal;

determining, by the terminal device, a second downlink signal in Quasi-Co-Location (QCL) with the first port set for the first downlink signal based on the Cell ID; and

10 processing, by the terminal device, signals on the first port set for the first downlink signal based on QCL information obtained from the second downlink signal, wherein determining, by the terminal device, the second downlink signal in QCL with the first port set for the first downlink signal based on the Cell ID, comprises:

15 determining, by the terminal device, an SS block or a signal in the SS block containing the Cell ID as the second downlink signal in QCL with the first port set for the first downlink signal.

2. The method of claim 1, wherein the first port set comprises part or all of ports for the first downlink signal.

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3. The method of claim 1 or 2, wherein a large scale property of a channel for transmitting the second downlink signal is used to determine a large scale property of a channel corresponding to the first port set for the first downlink signal; or

25 a beam adopted to transmit or receive the second downlink signal is used to determine a beam adopted to transmit or receive the signal on the first port set for the first downlink signal.

4. The method of claim 3, wherein the second downlink signal is the SS block, and

30 a large scale property of a channel for transmitting an SS in the SS block or a demodulation reference signal (DMRS) of a physical broadcast channel (PBCH) is used to determine the large scale property of the channel corresponding to the first port set for transmission of the first downlink signal.

5. The method of claim 3, wherein the second downlink signal is the SS block, and a beam adopted to transmit or receive an SS in the SS block or a PBCH is used to determine the beam adopted to transmit or receive the signal on the first port set for the first downlink signal.

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6. The method of any one of claims 1-5, wherein the QCL information comprises a large scale property of a channel, or beam information.

7. The method of claim 6, wherein processing, by the terminal device, the signal on the first port set for the first downlink signal based on the QCL information obtained from the second downlink signal comprises:

acquiring, by the terminal device, a large scale property of a channel for transmitting the second downlink signal; and

performing channel estimation on the channel corresponding to the first port set for the first downlink signal based on the large scale property of the channel for transmitting the second downlink signal.

8. The method of claim 6, wherein processing, by the terminal device, the signals on the first port set for the first downlink signal based on the QCL information obtained from the second downlink signal comprises:

determining, by the terminal device, a beam adopted to receive the second downlink signal as a target beam adopted to receive the signal on the first port set for the first downlink signal; and

adopting the target beam to receive the signals on the first port set for the first downlink signal.

9. The method of any one of claims 6-8, wherein the large scale property of the channel comprises at least one of:

a delay spread, a doppler spread, a doppler shift, an average gain, an average delay, a departure of angle, an arrival of angle, correlation of receiving, or correlation of transmitting.

10. The method of any one of claims 1-9, wherein the first downlink signal is one of

the following: a DMRS, a Channel State Information-reference signal (CSI-RS), an SS block, an SS, and a synchronization channel.

11. A signal processing apparatus, comprising:

5 a determination module, configured to determine a Cell identifier (ID) corresponding to a first port set for a first downlink signal and determine a second downlink signal in Quasi-Co-Location (QCL) with the first port set for the first downlink signal based on the Cell ID; and

 a processing module, configured to process signals on the first port set for the
10 first downlink signal based on QCL information obtained from the second downlink signal,

 wherein in determining the second downlink signal in QCL with the first port set for the first downlink signal based on the Cell ID, the determination module is further configured to determine an SS block or a signal in the SS block containing the
15 Cell ID as the second downlink signal in QCL with the first port set for the first downlink signal.

12. The apparatus of claim 11, wherein the first port set comprises part or all of ports for the first downlink signal.

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13. The apparatus of claim 11 or 12, wherein a large scale property of a channel for transmitting the second downlink signal is used to determine a large scale property of a channel corresponding to the first port set for the first downlink signal; or

 a beam adopted to transmit or receive the second downlink signal is used to
25 determine a beam adopted to transmit or receive the signal on the first port set for the first downlink signal.

14. The apparatus of claim 13, wherein the second downlink signal is the SS block, and

30 a large scale property of a channel for transmitting an SS in the SS block or a demodulation reference signal (DMRS) of a physical broadcast channel (PBCH) is used to determine the large scale property of the channel corresponding to the first port set for transmission of the first downlink signal.

15. The apparatus of claim 13, wherein the second downlink signal is the SS block,
and

5 a beam adopted to transmit or receive an SS in the SS block or a PBCH is used
to determine the beam adopted to transmit or receive the signal on the first port set for
the first downlink signal.

16. The apparatus of any one of claims 11-15, wherein the QCL information
comprises a large scale property of a channel, or beam information.

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17. The apparatus of claim 16, wherein the processing module is configured to:

acquire a large scale property of a channel for transmitting the second
downlink signal; and

15 perform channel estimation on the channel corresponding to the first port set
for the first downlink signal based on the large scale property of the channel for
transmitting the second downlink signal.

18. The apparatus of claim 16, wherein the processing module is specifically
configured to:

20 determine a beam adopted to receive the second downlink signal as a target
beam adopted to receive the signal on the first port set for the first downlink signal;
and

the apparatus further comprises:

25 a communication module, configured to adopt the target beam to receive the
signal on the first port set for the first downlink signal.

19. The apparatus of any one of claims 16-18, wherein the large scale property of the
channel comprises at least one of:

30 a delay spread, a doppler spread, a doppler shift, an average gain, an average
delay, a departure of angle, an arrival of angle, correlation of receiving, or correlation
of transmitting.

20. The apparatus of any one of claims 11-19, wherein the first downlink signal is

one of the following: a DMRS, a channel state information-reference signal (CSI-RS), an SS block, or an SS, or a synchronization channel.

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