

CLAIMS

1. A signal processing method, comprising:

5 determining, by a terminal device, a Quasi-Co-LocationCell identifier (QCL 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 QCLCell 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 the QCL ID is beam ID, and determining, by the terminal device, the second downlink signal in QCL with the first port set for the first downlink signal based on the QCLCell ID, comprises:

15 determining, by the terminal device, a synchronization signalan (SS) block ~~or a signal in the SS block~~ containing the Cell beam ID as the second downlink signal in QCL with the first port set for the first downlink signal, each signal in the SS block containing the beam ID.

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

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.

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

54. 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 physical
broadcast channel (PBCH) is used to determine the beam adopted to transmit or
receive the signal on the first port set for the first downlink signal.

65. The method of any one of claims 1-54, wherein the QCL information further
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.~~

86. The method of claim 65, 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.~~

107. The method of any one of claims 1-96, wherein the first downlink signal is one of the following: a demodulation reference signal (DMRS), a Channel State Information-reference signal (CSI-RS), an SS block, an SS, and a synchronization channel.

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118. A signal processing apparatus, comprising:

a determination module, configured to determine a Quasi-Co-LocationCell identifier (QCL 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 QCLCell ID; and

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

wherein the QCL ID is beam ID, and in determining the second downlink signal in QCL with the first port set for the first downlink signal based on the QCLCell ID, the determination module is further configured to determine a synchronization signalan (SS) block or a signal in the SS block containing the Cell beam ID as the second downlink signal in QCL with the first port set for the first downlink signal, each signal in the SS block containing the beam ID.

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129. The apparatus of claim 118, wherein the first port set comprises part or all of ports for the first downlink signal.

1310. The apparatus of claim 11-8 or 129, 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 determine a beam adopted to transmit or receive the signal on the first port set for the first downlink signal.

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

~~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 ~~1511.~~ The apparatus of claim ~~1310~~, 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 physical broadcast channel (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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~~1612.~~ The apparatus of any one of claims ~~148-1511~~, wherein the QCL information further comprises ~~a large scale property of a channel, or beam information.~~

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

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

~~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.~~

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~~1813.~~ The apparatus of claim ~~1612~~, wherein the processing module is specifically configured to:

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;

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the apparatus further comprises:

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

30 ~~19. The apparatus of any one of claims 16-18, 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.

2014. The apparatus of any one of claims ~~118-131~~¹¹⁸⁻¹³¹⁹, wherein the first downlink signal is one of the following: a demodulation reference signal (DMRS), a channel state information-reference signal (CSI-RS), an SS block, or an SS, or a synchronization channel.
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