[00102] For example, the UE may add an IE to the first request message to carry the configuration identifier of the recommended PRS configuration. For example, the PRS configuration represented by the configuration identifier 1: PRS period 1 and PRS bandwidth 1.

[00103] Or the UE may add an IE to the first request message to carry detailed configuration information of the recommended PRS configuration. For example, a new IE is added, and the IE includes: PRS period, PRS bandwidth and other information.

[00104] Using the newly added IE to carry the recommended PRS configuration can increase the amount of information carried in the existing information and improve the efficiency of the first request message.

[00105] In some embodiments, step 301 may include: receiving the first request message carrying the recommended PRS configuration, sent by the UE in an on-demand manner.

[00106] The on-demand manner may be a manner in which the UE receives one or more candidate PRS configurations when there is a positioning requirement, and selects the recommended PRS configuration from one or more candidate PRS configurations, and sends it to the base station.

[00107] In the on-demand manner, the UE can receive the system information with the candidate PRS configurations only when required, and/or analyze the candidate PRS configurations in the system information. It can save the cost of the UE.

[00108] In some embodiments, receiving the first request message carrying the recommended PRS configuration, sent by the UE in the on-demand manner includes one of the following: receiving a DedicatedSIBRequest carrying the recommended PRS configuration; or receiving a dedicated RRCSystemInfoRequest carrying the recommended PRS configuration.

[00109] When the UE is in the RRC connected state, the recommended PRS configuration can be carried in the DedicatedSIBRequest message.

[00110] When the UE is in the idle or inactive state, the recommended PRS configuration can be carried in the RRCSystemInfoRequest message.

[00111] In this way, using different messages to carry the recommended PRS configuration can adapt to different UE states, which improves the adaptability of the recommended PRS configuration in the uplink.

added, and the IE includes: PRS period, PRS bandwidth and other information.

[00152] Using the newly added IE to carry the recommended PRS configuration can increase the amount of information carried in the existing information and improve the efficiency of the first request message.

[00153] In some embodiments, step 401 may include: sending the first request message carrying the recommended PRS configuration in an on-demand manner.

[00154] The on-demand manner may be a manner in which the UE receives one or more candidate PRS configurations when there is a positioning requirement, and selects the recommended PRS configuration from one or more candidate PRS configurations, and sends it to the base station.

[00155] In the on-demand manner, the UE can receive the system information with the candidate PRS configurations only when required, and/or analyze the candidate PRS configurations in the system information. It can save the cost of the UE.

[00156] In some embodiments, sending the first request message carrying the recommended PRS configuration in the on-demand manner includes one of the following: sending a DedicatedSIBRequest carrying the recommended PRS configuration; or sending a dedicated RRCSystemInfoRequest carrying the recommended PRS configuration.

[00157] When the UE is in the RRC connected state, the recommended PRS configuration can be carried in the DedicatedSIBRequest message.

[00158] When the UE is in the idle or inactive state, the recommended PRS configuration can be carried in the RRCSystemInfoRequest message.

[00159] In this way, using different messages to carry the recommended PRS configuration can adapt to different UE states, which improves the adaptability of the recommended PRS configuration in the uplink.

[00160] An example is provided below in conjunction with any of the foregoing embodiments.

[00161] The base station sends the positioning system message required by the positioning of the UE. The positioning system message includes configuration information of the downlink PRS applicable by the current network. The network can support a plurality of candidate PRS configurations.

CLAIMS

1. A method for information transmission, performed by a base station, comprising:

receiving a first request message carrying a recommended positioning reference signal (PRS) configuration;

determining a target PRS configuration according to the recommended PRS configuration; and

sending a PRS to a user equipment (UE) using the target PRS configuration.

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

sending system information, wherein the system information carries one or more candidate PRS configurations, and the one or more candidate PRS configurations are configured for the UE to select the recommended PRS configuration.

3. The method as claimed in claim 2, wherein receiving the first request message carrying the recommended PRS configuration comprises:

receiving the first request message carrying a configuration identifier of the recommended PRS configuration.

4. The method as claimed in claim 2 or 3, wherein the one or more candidate PRS configurations are carried in a type 6-1 of the system information.

5. The method as claimed in any one of claims 1 to 4, further comprising:

sending the target PRS configuration to the UE in response to the first request message, wherein the target PRS configuration is configured to indicate the UE to receive the PRS.

6. The method as claimed in any one of claims 1 to 4, wherein the first request message comprises:

a first information element (IE) comprising the recommended PRS configuration; and

a second IE comprising a request of triggering system information.

7. The method as claimed in any one of claims 1 to 4, wherein receiving the first request message carrying the recommended PRS configuration comprises:

receiving the first request message carrying the recommended PRS configuration, sent by

the UE in an on-demand manner.

8. The method as claimed in claim 7, wherein receiving the first request message carrying the recommended PRS configuration, sent by the UE in the on-demand manner, comprises one of the following:

receiving a dedicated system information block request (DedicatedSIBRequest) carrying the recommended PRS configuration; or

receiving a dedicated radio resource control system information request (RRCSystemInfoRequest) carrying the recommended PRS configuration.

9. A method for information transmission, performed by a user equipment (UE), comprising:

sending a first request message carrying a recommended positioning reference signal (PRS) configuration; wherein the recommended PRS configuration is configured for a base station to determine a target PRS configuration; and

receiving a PRS from the base station using the target PRS configuration.

10. The method as claimed in claim 9, further comprising:

receiving system information, wherein the system information carries one or more candidate PRS configurations; and

selecting the recommended PRS configuration from the one or more candidate PRS configurations.

11. The method as claimed in claim 10, wherein sending the first request message carrying the recommended PRS configuration comprises:

sending the first request message carrying a configuration identifier of the recommended PRS configuration.

12. The method as claimed in claim 10 or 11, wherein the one or more candidate PRS configurations are carried in a type 6-1 of the system information.

13. The method as claimed in any one of claims 10 to 12, further comprising:

determining a predetermined PRS configuration as the recommended PRS configuration

in response to not receiving the system information.

14. The method as claimed in any one of claims 9 to 13, wherein receiving the PRS from the base station using the target PRS configuration comprises:

receiving the target PRS configuration, that is sent by the base station in response to the first request message, and receiving the PRS from the base station using the target PRS configuration.

15. The method as claimed in any one of claims 9 to 13, wherein the first request message comprises:

a first information element (IE) comprising the recommended PRS configuration; and

a second IE comprising a request of triggering system information.

16. The method as claimed in any one of claims 9 to 13, wherein sending (401) the first request message carrying the recommended PRS configuration comprises:

sending the first request message carrying the recommended PRS configuration in an on-demand manner.

17. The method as claimed in claim 16, wherein sending the first request message carrying the recommended PRS configuration in the on-demand manner comprises one of the following:

sending a dedicated system information block request (DedicatedSIBRequest) carrying the recommended PRS configuration; or

sending a dedicated radio resource control system information request (RRCSystemInfoRequest) carrying the recommended PRS configuration.

18. An apparatus for information transmission, applicable to a base station, comprising:

a first receiving module, configured to receive a first request message carrying a recommended positioning reference signal (PRS) configuration;

a first determining module, configured to determine a target PRS configuration according to the recommended PRS configuration; and

a first sending module, configured to send a PRS to a user equipment (UE) using the target PRS configuration.

19. An apparatus for information transmission, applicable to a user equipment (UE), comprising:

a fourth sending module, configured to send a first request message carrying a recommended positioning reference signal (PRS) configuration; wherein the recommended PRS configuration is configured for a base station to determine a target PRS configuration; and

a second receiving module, configured to receive a PRS from the base station using the target PRS configuration.

20. A communication device, comprising a processor, a transceiver, a memory, and an executable program stored on the memory and capable of being executed by the processor, wherein the processor is configured to perform actions of the method for information transmission as claimed in any one of claims 1 to 8 or claims 9 to 17 when executing the executable program.

21. A storage medium on which an executable program is stored, wherein when the executable program is executed by a processor, actions of the method for information transmission as claimed in any one of claims 1 to 8 or claims 9 to 17 are performed.