Claims

[Claim 1] A terminal apparatus, comprising:

a receiver configured to receive non-demand System Information (SI) and on-demand SI, the non-demand SI including information for indicating a type of the on-demand SI supported by a cell and information for indicating whether a system information request is transmitted as a preamble or as a message;

a transmitter configured to transmit a system information request to request transmission of on-demand SI of a type supported by the cell;

wherein the transmitter is configured to transmit the system information request as a preamble or as a message;

wherein the transmitter is configured to transmit the system information request on a Physical Uplink Shared Channel (PUSCH) in a case that the system information request is a message; and

wherein the transmitter is configured to transmit the system information request on a Physical Random Access Channel (PRACH) in a case that the system information request is a preamble.

[Claim 2] The terminal apparatus according to claim 1, wherein ~~the on-demand SI is transmitted based on the system information request, and the non-demand SI is transmitted regardless of the system information request~~ the PRACH and the PUSCH respectively correspond to channels for 5th generation cellular mobile communications.

[Claim 3] The terminal apparatus according to any one of claims 1 or 2, wherein the non-demand SI comprises information indicating a set of PRACH resources for transmitting the system information request.

[Claim ~~3~~4] A base station apparatus, comprising:

a transmitter configured to transmit non-demand System Information (SI) and on-demand SI, the non-demand SI including information for indicating a type of the on-demand SI supported by a cell and information for indicating whether a system information request is transmitted as a preamble or as a message;

a receiver configured to receive a system information request to request transmission of on-demand SI of a type supported by the cell;

wherein the receiver is configured to receive the system information request as a preamble or as a message;

wherein the receiver is configured to receive the system information request on a Physical Uplink Shared Channel (PUSCH) in a case that the system information request is a message;

wherein the receiver is configured to receive the system information request on a Physical Random Access Channel (PRACH) in a case that the system information request is a preamble.

[Claim 45] The base station apparatus according to claim 43, wherein ~~the on-demand SI is transmitted based on the system information request, and the non-demand SI is transmitted regardless of the system information request~~ the PRACH and the PUSCH respectively correspond to channels for 5th generation cellular mobile communications.

[Claim 6] The base station apparatus according to any one of claims 4 or 5, wherein the non-demand SI comprises information indicating a set of PRACH resources for transmitting the system information request.

[Claim 57] A communication method used for a terminal apparatus, the method comprising:

receiving non-demand System Information (SI) and on-demand SI, the non-demand SI including information for indicating a type of the on-demand SI supported by a cell and information for indicating whether a system information request is transmitted as a preamble or as a message;

transmitting a system information request to request transmission of on-demand SI of a type supported by the cell;

wherein the transmitting comprises transmitting the system information request as a preamble or as a message;

wherein the transmitting comprises transmitting the system information request on a Physical Uplink Shared Channel (PUSCH) in a case that the system information request is a message;

wherein the transmitting comprises transmitting the system information request on a Physical Random Access Channel (PRACH) in a case that the system information request is a preamble.

~~[Claim 6] The communication method according to claim 5, wherein the on-demand SI is transmitted based on the system information request, and~~

~~the non-demand SI is transmitted regardless of the system information request.~~

~~[Claim 7] A communication method used for a base station apparatus, the method comprising: transmitting non-demand System Information (SI) including information for indicating a type of on-demand SI supported by a cell; and receiving a system information request to request transmission of on-demand SI of a type supported by the cell.~~

[Claim 8] The communication method according to claim 7, wherein ~~the on-demand SI is transmitted based on the system information request, and the non-demand SI is transmitted regardless of the system information request~~the PRACH and the PUSCH respectively correspond to channels for 5th generation cellular mobile communications.

[Claim 9] The communication method according to any one of claims 7 or 8, wherein the non-demand SI comprises information indicating a set of PRACH resources for transmitting the system information request.

[Claim 10] A communication method used for a base station apparatus, the method comprising:

transmitting non-demand System Information (SI) and on-demand SI, the non-demand SI including information for indicating a type of the on-demand SI supported by a cell and information for indicating whether a system information request is transmitted as a preamble or as a message;

receiving a system information request to request transmission of on-demand SI of a type supported by the cell;

wherein the receiving comprises receiving the system information request as a preamble or as a message;

wherein the receiving comprises receiving the system information request on a Physical Uplink Shared Channel (PUSCH) in a case that the system information request is a message;

wherein the receiving comprises receiving the system information request on a Physical Random Access Channel (PRACH) in a case that the system information request is a preamble.

[Claim 11] The communication method according to claim 10, wherein the PRACH and the PUSCH respectively correspond to channels for 5th generation cellular mobile communications.

[Claim 12] The communication method according to any one of claims 10 or 11, wherein the non-demand SI comprises information indicating a set of PRACH resources for transmitting the system information request.

~~[Claim 9]~~

~~An integrated circuit mounted in a terminal apparatus, the integrated circuit comprising:~~

~~a reception circuit configured to receive non-demand System Information (SI) including information for indicating a type of on-demand SI supported by a cell; and~~

~~a transmission circuit configured to transmit a system information request to request transmission of on-demand SI of a type supported by the cell.~~

~~[Claim 10]~~

~~The integrated circuit according to claim 9,~~

~~wherein the on-demand SI is transmitted based on the system information request, and~~

~~the non-demand SI is transmitted regardless of the system information request.~~

~~[Claim 11]~~

~~An integrated circuit mounted in a base station apparatus, the integrated circuit comprising:~~

~~a transmission circuit configured to transmit non-demand System Information (SI) including information for indicating a type of on-demand SI supported by a cell; and~~

~~a reception circuit configured to receive a system information request to request transmission of on-demand SI of a type supported by the cell.~~

~~[Claim 12]~~

~~The integrated circuit according to claim 11,~~

~~wherein the on-demand SI is transmitted based on the system information request, and~~

~~the non-demand SI is transmitted regardless of the system information request.~~