

zero linear combination coefficients is located in a frequency component with a predetermined index of the frequency components in a shifted matrix; generate a first indication indicating the spatial component associated with the target coefficient in the matrix; and transmit, to the network device, uplink control information comprising the first indication.

[0008] In an example, there is provided a device. The device comprises at least one processor; and at least one memory including computer program codes; the at least one memory and the computer program codes are configured to, with the at least one processor, cause the device at least to receive, at a network device and from a terminal device, uplink control information comprising a first indication, the first indication indicating spatial components associated with a target coefficient in a matrix comprising a set of non-zero linear combination coefficients for quantizing a channel between the terminal device and the network device, the matrix having the spatial components and frequency components; and determine state information of the channel based on the uplink control information..

[0009] In an example, there is provided an apparatus comprises means for determining, at a terminal device, a matrix comprising a set of non-zero linear combination coefficients for quantizing a channel between the terminal device and a network device, the matrix having spatial components and frequency components; means for shifting the frequency components of the matrix circularly, such that a target coefficient of the set of non-zero linear combination coefficients is located in a frequency component with a predetermined index of the frequency components in a shifted matrix; means for generating a first indication indicating the spatial component associated with the target coefficient in the matrix; and means for transmitting, to the network device, uplink control information comprising the first indication.

[0010] In an example, there is provided an apparatus comprising means for receiving, at a network device and from a terminal device, uplink control information comprising a first indication, the first indication indicating spatial components associated with a target coefficient in a matrix comprising a set of non-zero linear combination coefficients for quantizing a channel between the terminal device and the network device, the matrix having the spatial components and frequency components; and means for determining state information of the channel based on the uplink control information.

[0011] In an example, there is provided a computer readable medium having a computer program stored thereon which, when executed by at least one processor of a device, causes the device to carry out the method according to the first aspect.

[0012] In an example, there is provided a computer readable medium having a computer program stored thereon which, when executed by at least one processor of a device, causes the device to carry out the method according to the second aspect.