

CLAIMS

What is claimed is:

1.———A method for wireless communication, comprising:

 _receiving a configuration indicating a number of beams to be reported in a channel state information (CSI) report;

 _receiving a set of reference signals;

~~identifying, wherein, for one or more spatial layers and based at least in part on the set of reference signals,~~ a set of beams corresponding to the number of beams for reporting to be reported in the CSI report, wherein is based at least in part on the set of reference signals, and wherein the set of beams comprises at least one non-zero-power beam;

~~generating and transmitting the CSI report comprising a beam coefficient for each of the at least one non-zero-power beam for each of the one or more spatial layers and an indicator of the at least one non-zero-power beam; and, wherein the indicator comprises multiple sets of bits and each set of bits indicates a number of non-zero-power beams for a corresponding spatial layer of the one or more spatial layers, wherein the CSI report excludes beam coefficients for one or more beams for at least one of the one or more spatial layers, and wherein a number of the one or more beams corresponds to an amount that the number of beams to be reported in the CSI report exceeds the number of non-zero-power beams.~~

~~transmitting the CSI report.~~

2.———The method of claim 1, wherein the configuration indicates a port-selection codebook and the at least one non-zero-power beam comprises a set of non-zero-power antenna ports.

3.———The method of claim 1, wherein the indicator of the at least one non-zero-power beam comprises an indicator of zero-power beams, and wherein a set of non-zero-power beams is determined based on the indicator and the set of beams.

4.———The method of claim 1, wherein ~~identifying the set of beams comprises:~~

~~identifying:~~ the at least one non-zero-power beam for applies to at least one of a first set of antenna ports or a second set of antenna ports for the one or more spatial layers.

5.———The method of claim 4, wherein ~~the indicator comprises a set of bits indicating a number of the non-zero-power beams in the set of beams, each non-zero-power beam of the number of the non-zero-power beams applying~~ applies to the first set of antenna ports and the second set of antenna ports on each of the one or more spatial layers.

6.——_The method of claim 4, wherein ~~the indicator comprises a set of bits indicating a set of non-zero-power beams in the set of beams, each non-zero-power beam of the set of at least one non-zero-power beams applying beam applies~~ to the first set of antenna ports and the second set of antenna ports on each of the one or more spatial layers.

7.——_The method of claim 6, wherein the set of bits indicating the ~~set number~~ of non-zero-power beams in the set of beams comprises a power indicator bit for each beam of the ~~set number~~ of non-zero-power beams.

8.——_The method of claim 4, wherein the ~~indicator comprises multiple sets of bits comprise~~ a first set of bits indicating a first number of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a first spatial layer of the one or more spatial layers and a second set of bits indicating a second number of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a second spatial layer of the one or more spatial layers.

9.——_The method of claim 4, wherein the ~~indicator comprises multiple sets of bits comprise~~ a first set of bits indicating a first set of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a first spatial layer of the one or more spatial layers and a second set of bits indicating a second set of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a second spatial layer of the one or more spatial layers.

10.——_The method of claim 9, wherein each set of bits comprises a power indicator bit for each beam of the corresponding set of non-zero-power beams.

11.——_The method of claim 4, wherein the ~~indicator comprises multiple sets of bits comprise~~ a first set of bits indicating a first number of non-zero-power beams in the set of beams for the first set of antenna ports and a second set of bits indicating a second number of non-zero-power beams in the set of beams for the second set of antenna ports, each non-zero-power beam of the first number of non-zero-power beams and each non-zero-power beam of the second number of non-zero-power beams applying to each of the one or more spatial layers.

12.——_The method of claim 4, wherein the ~~indicator comprises multiple sets of bits comprise~~ a first set of bits indicating a first set of non-zero-power beams in the set of beams for the first set of antenna ports and a second set of bits indicating a second set of non-zero-power beams in the set of beams for the second set of antenna ports, each non-zero-power beam of the first set of non-zero-power beams and each non-zero-power beam of the second set of non-zero-power beams applying to each of the one or more spatial layers.

13.——_The method of claim 12, wherein the first set of bits comprises a power indicator bit for each beam of a set of non-zero-power beams over the first set of antenna ports and the second set of bits comprises a power indicator bit for each beam of the set of non-zero-power beams over the second set of antenna ports.

14.——_The method of claim 4, wherein the one or more spatial layers comprise a plurality of spatial layers, and wherein the indicator comprises a respective set of bits indicating a

respective number of non-zero-power beams for each of the first set of antenna ports and the second set of antenna ports for each of the plurality of spatial layers.

15.—_The method of claim 4, wherein the one or more spatial layers comprise a plurality of spatial layers, and wherein the indicator comprises a respective set of bits indicating a respective set of non-zero-power beams for each of the first set of antenna ports and the second set of antenna ports for each of the plurality of spatial layers.

16.—_The method of claim 15, wherein each of the respective sets of bits comprises a power indicator bit for each beam of the set of non-zero-power beams for a corresponding set of antenna ports and a corresponding spatial layer.

17.—_The method of claim 4, wherein the first set of antenna ports or the second set of antenna ports correspond to a same polarization, or a same antenna panel, or a combination thereof.

18.—_The method of claim 1, wherein the CSI report further comprises a rank indication (RI).

19.—_The method of claim 18, wherein the RI and the indicator are encoded separately.

20.—_The method of claim 1, wherein the beam coefficient for each of the at least one non-zero-power beam of the set of beams comprises a wideband beam amplitude, a subband beam amplitude, a subband beam phase, or a combination thereof, and wherein a reporting payload size of the ~~at least one~~ beam coefficient for each non-zero-power beam of the set of beams is based at least in part on the indicator.

21.—_The method of claim 1, wherein the configuration is received via radio resource control (RRC) signaling, a medium access control (MAC) control element (CE), or downlink control signaling, the configuration further comprising a reporting setting.

22.—_A method for wireless communication, comprising:

_transmitting, to a user equipment (UE), a configuration indicating a number of beams to be reported in a channel state information (CSI) report;

_transmitting a set of reference signals;

_receiving the CSI report from the UE, wherein the CSI report indicates a set of beams corresponding to the number of beams ~~for reporting to be reported~~ in the CSI report, the CSI report further comprising at least one beam coefficient for each non-zero-power beam of the set of beams for each of one or more spatial layers and an indicator of at least one non-zero-power beam in the set of beams; ~~and, wherein the indicator comprises multiple sets of bits and each set of bits indicates a number of non-zero-power beams for a corresponding spatial layer of the one or more spatial layers, wherein the CSI report excludes beam coefficients for one or more beams for at least one of the one or more spatial layers, and wherein a number of the one or more beams corresponds to an amount that the number of beams to be reported in the CSI report exceeds the number of non-zero-power beams; and parsing the at least one beam coefficient based at least in part on the CSI report.~~

~~parsing the at least one beam coefficient based at least in part on the CSI report.~~

23.———_The method of claim 22, wherein transmitting the set of reference signals comprises:

~~_transmitting reference signals over respective antenna ports, wherein each beam of the set of beams corresponds to one of the antenna ports.~~

24.——_The method of claim 22, wherein the indicator of the at least one non-zero-power beam comprises an indicator of zero-power beams, the method further comprising:
determining a set of non-zero-power beams based on the indicator and the set of beams.

~~determining a set of non-zero-power beams based on the indicator and the set of beams.~~

25.——_The method of claim 22, wherein the set of beams applies to a first set of antenna ports and a second set of antenna ports for the one or more spatial layers.

26.———_The method of claim 25, wherein ~~the indicator comprises a set of bits indicating a number of non-zero-power beams in the set of beams, each non-zero-power beam of the number of non-zero-power beams applying to the first set of antenna ports and the second set of antenna ports on each of the one or more spatial layers.~~

27.——_The method of claim 25, wherein the indicator comprises a set of bits indicating a set of non-zero-power beams in the set of beams, each non-zero-power beam of the set of non-zero-power beams ~~applying~~ applies to the first set of antenna ports and the second set of antenna ports on each of the one or more spatial layers.

27. The method of claim 25, wherein each non-zero-power beam of the at least one non-zero-power beam applies to the first set of antenna ports and the second set of antenna ports on each of the one or more spatial layers.

28.———_The method of claim 27, wherein the set of bits indicating the ~~set~~ number of non-zero-power beams in the set of beams comprises a power indicator bit for each beam of the ~~set~~ number of non-zero-power beams.

29.——_The method of claim 25, wherein the ~~indicator comprises multiple sets of bits~~ comprise a first set of bits indicating a first number of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a first spatial layer of the one or more spatial layers and a second set of bits indicating a second number of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a second spatial layer of the one or more spatial layers.

30.———The method of claim 25, wherein the ~~indicator comprises~~ multiple sets of bits comprise a first set of bits indicating a first set of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a first spatial layer of the one or more spatial layers and a second set of bits indicating a second set of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a second spatial layer of the one or more spatial layers.

31.—The method of claim 30, wherein each set of bits comprises a power indicator bit for each beam of the corresponding set of non-zero-power beams.

32.—The method of claim 25, wherein the ~~indicator comprises~~ multiple sets of bits comprise a first set of bits indicating a first number of non-zero-power beams in the set of beams for the first set of antenna ports and a second set of bits indicating a second number of non-zero-power beams in the set of beams for the second set of antenna ports, each non-zero-power beam of the first number of non-zero-power beams and each non-zero-power beam of the second number of non-zero-power beams applying to each of the one or more spatial layers.

33.—The method of claim 25, wherein the ~~indicator comprises~~ multiple sets of bits comprise a first set of bits indicating a first set of non-zero-power beams in the set of beams for the first set of antenna ports and a second set of bits indicating a second set of non-zero-power beams in the set of beams having the second set of antenna ports, each non-zero-power beam of the first set of non-zero-power beams and each non-zero-power beam of the second set of non-zero-power beams applying to each of the one or more spatial layers.

34.—The method of claim 33, wherein the first set of bits comprises a power indicator bit for each beam of a set of non-zero-power beams over the first set of antenna ports and the second set of bits comprises a power indicator bit for each beam of the set of non-zero-power beams over the second set of antenna ports.

35.———The method of claim 25, wherein the one or more spatial layers comprise a plurality of spatial layers, and wherein the indicator comprises a respective set of bits indicating a respective number of non-zero-power beams for each of the first set of antenna ports and the second set of antenna ports for each of the plurality of spatial layers.

36.—The method of claim 25, wherein the one or more spatial layers comprise a plurality of spatial layers, and wherein the indicator comprises a respective set of bits indicating a respective set of non-zero-power beams for each of the first set of antenna ports and the second set of antenna ports for each of the plurality of spatial layers.

37.—The method of claim 36, wherein each of the respective sets of bits comprises a power indicator bit for each beam of the set of non-zero-power beams for a corresponding set of antenna ports and a corresponding spatial layer.

38.—_The method of claim 25, wherein the first set of antenna ports or the second set of antenna ports correspond to a same polarization, or a same antenna panel, or a combination thereof.

39.—_The method of claim 22, wherein the CSI report further comprises a rank indication (RI).

40.—_The method of claim 39, wherein the RI and the indicator are encoded separately.

41.—_The method of claim 22, wherein the at least one beam coefficient for each non zero-power beam of the subset comprises a wideband beam amplitude, a subband beam amplitude, a subband beam phase, or a combination thereof and wherein a reporting payload size of the at least one beam coefficient for each non-zero-power beam of the set of beams is based at least in part on the indicator.

42.—_The method of claim 22, wherein the configuration is transmitted via radio resource control (RRC) signaling, a medium access control (MAC) control element (CE), or downlink control signaling, the configuration further comprising a reporting setting.

43.—_An apparatus for wireless communication, comprising:

_means for receiving a configuration indicating a number of beams to be reported in a channel state information (CSI) report;

_means for receiving a set of reference signals;

~~means for identifying, wherein, for one or more spatial layers, a set of beams corresponding to the number of beams for reporting to be reported in the CSI report, wherein is based at least in part on the set of reference signals, and wherein the set of beams comprises at least one non-zero-power beam;~~

~~and means for generating/transmitting the CSI report comprising a beam coefficient for each of the at least one non-zero-power beam for each of the one or more spatial layers and an indicator of the at least one non-zero-power beam; and, wherein the indicator comprises multiple sets of bits and each set of bits indicates a number of non-zero-power beams for a corresponding spatial layer of the one or more spatial layers, wherein the CSI report excludes beam coefficients for one or more beams for at least one of the one or more spatial layers, and wherein a number of the one or more beams corresponds to an amount that the number of beams to be reported in the CSI report exceeds the number of non-zero-power beams.~~

~~means for transmitting the CSI report.~~

44.—_The apparatus of claim 43, further comprising:

_means for receiving each reference signal over a respective antenna port of a set of antenna ports, wherein each beam of the set of beams corresponds to an antenna port of the set of antenna ports.

45.—_The apparatus of claim 43, wherein the indicator of the at least one non-zero-power beam comprises an indicator of zero-power beams, and wherein a set of non-zero-power beams is determined based on the indicator and the set of beams.

46.———_The apparatus of claim 43, wherein ~~the means for identifying the set of beams comprises:~~

~~———means for identifying:~~ the at least one non-zero-power beam ~~for~~applies to at least one of a first set of antenna ports or a second set of antenna ports for the one or more spatial layers.

47.———_An apparatus for wireless communication, comprising:

_means for transmitting, to a user equipment (UE), a configuration indicating a number of beams to be reported in a channel state information (CSI) report;

_means for transmitting a set of reference signals;

_means for receiving the CSI report from the UE, wherein the CSI report indicates a set of beams corresponding to the number of beams ~~for reporting to be reported~~ in the CSI report, the CSI report further comprising a set of beam coefficients for each non-zero-power beam of the set of beams for each of one or more spatial layers and an indicator of at least one non-zero-power beam in the set of beams; wherein the indicator comprises multiple sets of bits and

each set of bits indicates a number of non-zero-power beams for a corresponding spatial layer of the one or more spatial layers, wherein the CSI report excludes beam coefficients for one or more beams for at least one of the one or more spatial layers, and wherein a number of the one or more beams corresponds to an amount that the number of beams to be reported in the CSI report exceeds the number of non-zero-power beams; and means for parsing the set of beam coefficients based at least in part on the indicator of the non-zero-power beams.

48.———_The apparatus of claim 47, further comprising:

_means for transmitting the set of reference signals over respective antenna ports, wherein each beam of the set of beams corresponds to one of the antenna ports.

49.—_The apparatus of claim 47, wherein the indicator of the at least one non-zero-power beam comprises an indicator of zero-power beams, the method further comprising: means for determining a set of non-zero-power beams based on the indicator and the set of beams.

~~means for determining a set of non-zero-power beams based on the indicator and the set of beams.~~

50.—_The apparatus of claim 47, wherein the set of beams applies to a first set of antenna ports and a second set of antenna ports for the one or more spatial layers.

51.—_An apparatus for wireless communication, comprising:

_____a processor;

_____memory in electronic communication with the processor; and

_____instructions stored in the memory and operable, when executed by the processor, to cause the apparatus to:

_____receive a configuration indicating a number of beams to be reported in a channel state information (CSI) report;

_____receive a set of reference signals;

_____identify, wherein, for one or more spatial layers, a set of beams corresponding to the number of beams ~~for reporting to be reported~~ in the CSI report; ~~wherein is based at least in part on the set of reference signals, and wherein the set of beams comprises at least one non-zero-power beam;~~

~~generate and transmit the CSI report comprising at least one beam coefficient for each of the at least one non-zero-power beam for each of the one or more spatial layers and an indicator of the at least one non-zero-power beam; and, wherein the indicator comprises multiple sets of bits and each set of bits indicates a number of non-zero-power beams for a corresponding spatial layer of the one or more spatial layers, wherein the CSI report excludes beam coefficients for one or more beams for at least one of the one or more spatial layers, and wherein a number of the one or more beams corresponds to an amount that the number of beams to be reported in the CSI report exceeds the number of non-zero-power beams.~~

~~transmit the CSI report.~~

52.—_The apparatus of claim 51, wherein the instructions are further executable by the processor to:

_____receive each reference signal over a respective antenna port of a set of antenna ports, wherein each beam of the set of beams corresponds to an antenna port of the set of antenna ports.

53.—_The apparatus of claim 51, wherein the indicator of the at least one non-zero-power beam comprises an indicator of zero-power beams, and wherein a set of non-zero-power beams is determined based on the indicator and the set of beams.

54. — The apparatus of claim 51, wherein ~~the instructions are further executable by the processor to:~~

~~identify~~ the at least one non-zero-power beam ~~for~~applies to at least one of a first set of antenna ports or a second set of antenna ports for the one or more spatial layers.

55. — The apparatus of claim 54, wherein ~~the indicator comprises a set of bits indicating a number of the non-zero-power beams in the set of beams,~~ each non-zero-power beam of the number of the non-zero-power beams ~~applying~~applies to the first set of antenna ports and the second set of antenna ports on each of the one or more spatial layers.

56. — The apparatus of claim 54, wherein ~~the indicator comprises a set of bits indicating a set of non-zero-power beams in the set of beams,~~ each non-zero-power beam of the ~~set of at least one non-zero-power beams applying~~beam applies to the first set of antenna ports and the second set of antenna ports on each of the one or more spatial layers.

57. — The apparatus of claim 56, wherein the set of bits indicating the ~~set~~number of non-zero-power beams in the set of beams comprises a power indicator bit for each beam of the ~~set~~number of non-zero-power beams.

58. — The apparatus of claim 54, wherein the ~~indicator comprises~~multiple sets of bits comprise a first set of bits indicating a first number of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a first spatial layer of the one or more spatial layers and a second set of bits indicating a second number of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a second spatial layer of the one or more spatial layers.

59. — The apparatus of claim 54, wherein the ~~indicator comprises~~multiple sets of bits comprise a first set of bits indicating a first set of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a first spatial layer of the one or more spatial layers and a second set of bits indicating a second set of non-zero-power beams for the first set of antenna ports and the second set of antenna ports for a second spatial layer of the one or more spatial layers.

60. — The apparatus of claim 59, wherein each set of bits comprises a power indicator bit for each beam of a set of non-zero-power beams.

61. — The apparatus of claim 54, wherein the ~~indicator comprises~~multiple sets of bits comprise a first set of bits indicating a first number of non-zero-power beams in the set of beams for the first set of antenna ports and a second set of bits indicating a second number of non-zero-power beams in the set of beams for the second set of antenna ports, each non-zero-power beam of the first number of non-zero-power beams and each non-zero-power beam of the second number of non-zero-power beams applying to each of the one or more spatial layers.

62. — The apparatus of claim 54, wherein the ~~indicator comprises~~multiple sets of bits comprise a first set of bits indicating a first set of non-zero-power beams in the set of beams for the first set of antenna ports and a second set of bits indicating a second set of non-zero-power beams in the set of beams for the second set of antenna ports, each non-zero-power

beam of the first set of non-zero-power beams and each non-zero-power beam of the second set of non-zero-power beams applying to each of the one or more spatial layers.

63.—_The apparatus of claim 62, wherein the first set of bits comprises a power indicator bit for each beam of a set of non-zero-power beams over the first set of antenna ports and the second set of bits comprises a power indicator bit for each beam of the set of non-zero-power beams over the second set of antenna ports.

64.—_The apparatus of claim 54, wherein the one or more spatial layers comprise a plurality of spatial layers, and wherein the indicator comprises a respective set of bits indicating a respective number of non-zero-power beams for each of the first set of antenna ports and the second set of antenna ports for each of the plurality of spatial layers.

65.—_The apparatus of claim 54, wherein the one or more spatial layers comprise a plurality of spatial layers, and wherein the indicator comprises a respective set of bits indicating a respective set of non-zero-power beams for each of the first set of antenna ports and the second set of antenna ports for each of the plurality of spatial layers.

66.—_The apparatus of claim 65, wherein each of the respective sets of bits comprises a power indicator bit for each beam of the set of non-zero-power beams for a corresponding set of antenna ports and a corresponding spatial layer.

67.—_The apparatus of claim 54, wherein the first set of antenna ports or the second set of antenna ports correspond to a same polarization, or a same antenna panel, or a combination thereof.

68.—_The apparatus of claim 51, wherein the CSI report further comprises a rank indication (RI).

69.—_The apparatus of claim 68, wherein the RI and the indicator are encoded separately.

70.—_The apparatus of claim 51, wherein the at least one beam coefficient for each non-zero-power beam of the set of beams comprises a wideband beam amplitude, a subband beam amplitude, a subband beam phase, or a combination thereof and wherein a reporting payload size of the at least one beam coefficient for each non-zero-power beam of the set of beams is based at least in part on the indicator.

71.—_The apparatus of claim 51, wherein the configuration is received via radio resource control (RRC) signaling, a medium access control (MAC) control element (CE), or downlink control signaling, the configuration further comprising a reporting setting.

72.—_An apparatus for wireless communication, comprising:

_____a processor;

_____memory in electronic communication with the processor; and

_____instructions stored in the memory and operable, when executed by the processor, to cause the apparatus to:

transmit, to a user equipment (UE), a configuration indicating a number of beams to be reported in a channel state information (CSI) report;

transmit a set of reference signals;

receive the CSI report from the UE, wherein the CSI report indicates a set of beams corresponding to the number of beams ~~for reporting to be reported~~ in the CSI report, the CSI report further comprising a set of beam coefficients for each non-zero-power beam of the set of beams for each of one or more spatial layers and an indicator of at least one non-zero-power beam in the set of beams; wherein the indicator comprises multiple sets of bits and each set of bits indicates a number of non-zero-power beams for a corresponding spatial layer of the one or more spatial layers, wherein the CSI report excludes beam coefficients for one or more beams for at least one of the one or more spatial layers, and wherein a number of the one or more beams corresponds to an amount that the number of beams to be reported in the CSI report exceeds the number of non-zero-power beams; and parse the set of beam coefficients based at least in part on the indicator of the non-zero-power beams.

~~parse the set of beam coefficients based at least in part on the indicator of the non-zero-power beams.~~

73.———The apparatus of claim 72, wherein the instructions are further executable by the processor to:

transmit the set of reference signals over respective antenna ports, wherein each beam of the set of beams corresponds to one of the antenna ports.

74.——The apparatus of claim 72, wherein the indicator of the at least one non-zero-power beam comprises an indicator of zero-power beams, and wherein the instructions are further executable by the processor to: determine a set of non-zero-power beams based on the indicator and the set of beams.

~~determine a set of non-zero-power beams based on the indicator and the set of beams.~~

75.——The apparatus of claim 72, wherein the set of beams applies to a first set of antenna ports and a second set of antenna ports for the one or more spatial layers.

76.———A non-transitory computer readable medium storing code for wireless communication, the code comprising instructions executable by a processor to:

receive a configuration indicating a number of beams to be reported in a channel state information (CSI) report;

receive a set of reference signals;

~~identify, wherein, for one or more spatial layers, a set of beams corresponding to the number of beams for reporting to be reported in the CSI report, wherein is based at least in part on the set of reference signals, and wherein the set of beams comprises at least one non-zero-power beam;~~

~~generate and transmit the CSI report comprising beam coefficients for each of the at least one non-zero-power beam for each of the one or more spatial layers and an indicator of the at least one non-zero-power beam; and, wherein the indicator comprises multiple sets of bits and each set of bits indicates a number of non-zero-power beams for a corresponding spatial layer of the one or more spatial layers, wherein the CSI report excludes beam coefficients for one or more beams for at least one of the one or more spatial layers, and wherein a number of the one or more beams corresponds to an amount that the number of beams to be reported in the CSI report exceeds the number of non-zero-power beams.~~

~~transmit the CSI report.~~

77. ————— A non-transitory computer readable medium storing code for wireless communication, the code comprising instructions executable by a processor to:

~~_transmit, to a user equipment (UE), a configuration indicating a number of beams to be reported in a channel state information (CSI) report;~~

~~_transmit a set of reference signals;~~

~~_receive the CSI report from the UE, wherein the CSI report indicates a set of beams corresponding to the number of beams for reporting to be reported in the CSI report, the CSI report further comprising a set of beam coefficients for each non-zero-power beam of the set of beams for each of one or more spatial layers and an indicator of at least one non-zero-power beam in the set of beams; wherein the indicator comprises multiple sets of bits and~~

~~each set of bits indicates a number of non-zero-power beams for a corresponding spatial layer of the one or more spatial layers, wherein the CSI report excludes beam coefficients for one or more beams for at least one of the one or more spatial layers, and wherein a number of the one or more beams corresponds to an amount that the number of beams to be reported in the CSI report exceeds the number of non-zero-power beams; and parse the set of beam coefficients based at least in part on the indicator of the non-zero-power beams.~~