CLAIMS

1. A method for wireless communication, comprising:

initiating, at a user equipment (UE), measurements of received reference signals that are to be transmitted in a plurality of downlink transmission beams from a base station;

measuring, responsive to the initiating, one or more parameters of each of the received reference signals to generate a plurality of sets of measured beam parameters each associated with a corresponding downlink transmission beam;

reporting, to the base station, each of the plurality of sets of measured beam parameters;

receiving, responsive to the reporting the plurality of sets of measured beam parameters, a plurality of transmission configuration indicator (TCI) states associated with an order for receiving a subsequent plurality of sequential transmission beams from the base station;

determining that a repetitive order of transmission beam parameters corresponding to the plurality of TCI states is occurring, wherein the order for receiving the subsequent plurality of sequential transmission beams is based at least in part on the repetitive order; and

storing, at the UE, the plurality of TCI states.

2. The method of claim 1, wherein the measuring the one or more parameters of each of the received reference signals comprises:

measuring a first reference signal in a first transmission slot; and

measuring one or more subsequent reference signals in one or more subsequent transmission slots, each of the one or more subsequent transmission slots being at predetermined intervals.

3. The method of claim 2, wherein the predetermined intervals are configured at the UE by the base station.

4. The method of claim 1, wherein the initiating the measurements of received reference signals comprises:

receiving a trigger indication from the base station to initiate the measurements of received reference signals.

5. The method of claim 4, wherein the trigger indication is received in radio resource control (RRC) signaling, a medium access control (MAC) control element, in downlink control information (DCI), or any combination thereof.

6. The method of claim 1, further comprising:

receiving, from the base station, a second indication that the base station is starting transmission of the plurality of sequential transmission beams; and

applying the plurality of TCI states in a deterministic manner according to the order for receiving the subsequent plurality of sequential transmission beams to generate receive beamforming parameters for use in receiving each transmission beam of the plurality of sequential transmission beams.

7. The method of claim 6, wherein the second indication is received in a downlink control information (DCI) transmission from the base station, in a medium access control (MAC) control element from the base station, in radio resource control signaling from the base station, or any combination thereof.

8. The method of claim 6, wherein the applying the plurality of TCI states comprises:

identifying a first TCI state of the plurality of TCI states for a first transmission beam of the plurality of sequential transmission beams; and

identifying subsequent TCI states of the plurality of TCI states for remaining transmission beams of the plurality of sequential transmission beams based at least in part on the first TCI state and subsequent deterministic TCI states that follow the first TCI state.

9. The method of claim 8, wherein the identifying the subsequent TCI states is performed independently of signaling from the base station.

10. The method of claim 1, wherein the plurality of TCI states comprises a table of TCI states, and wherein the method further comprises:

receiving an indication of a first TCI state from the table of TCI states that is to be used in receiving a first transmission beam of the plurality of sequential transmission beams; and

receiving the first transmission beam using receive beamforming parameters that

are based at least in part on the first TCI state.

11. The method of claim 10, wherein the UE stores a plurality of analog beamforming weight configurations that each have an associated identification (ID), and wherein each TCI state of the plurality of TCI states indicates an ID for one of the plurality of analog beamforming weight configurations.

12. The method of claim 10, wherein the plurality of TCI states comprises a first subset of TCI states for receiving control resource set transmission beams and a second subset TCI states for receiving physical downlink shared channel (PDSCH) transmission beams.

13. The method of claim 1, wherein the measuring one or more parameters of each of a plurality of reference signals is performed as part of a beam selection procedure, a beam refinement procedure, or any combinations thereof.

14. The method of claim 1, further comprising:

repeating the measuring, the reporting, and the receiving until a deactivation of the measurements of received reference signals.

15. The method of claim 14, wherein the deactivation corresponds to an expiration of a timer associated with the measurements of received reference signals or a receipt of a deactivation indication from the base station.

16. The method of claim 1, further comprising:

transmitting a signal to the base station to initiate using the plurality of TCI states to receive one or more subsequent transmission beams from the base station.

17. The method of claim 1, further comprising:

using the plurality of TCI states to receive two or more subsequent transmission beams from the base station; and

measuring a tracking reference signal (TRS) associated with the two or more subsequent transmission beams for beam tracking and channel quality information feedback.

18. The method of claim 17, wherein the one or more parameters for the TRS are determined based at least in part on the plurality of TCI states.

19. The method of claim 1, further comprising:

receiving a trigger for an aperiodic channel state information reference signal (CSI-RS) measurement from the base station;

receiving the CSI-RS using a TCI state selected from the plurality of TCI states;

measuring one or more channel quality parameters based on the CSI-RS; and

transmitting the measured one or more channel quality parameters to the base station.

20. The method of claim 19, further comprising:

receiving one or more TCI states based on the measured one or more channel quality parameters.

21. The method of claim 1, further comprising:

receiving one or more subsequent transmissions from the base station using one or more of the plurality of TCI states;

measuring one or more channel quality characteristics of the one or more subsequent transmissions; and

determining a beam failure based at least on part on one or more of the channel quality characteristics being below a threshold.

22. The method of claim 1, wherein the measurements comprise periodic measurements, or semi-periodic measurements, or a combination thereof.

23. The method of claim 1, wherein:

measuring the one or more parameters comprises:

measuring the one or more parameters of the received reference signals from a first transmission reception point (TRP) to generate a first set of measured beam parameters; and

measuring the one or more parameters of the received reference signals from a second TRP to generate a second set of measured beam parameters; and

receiving the plurality of TCI states comprises receiving a first TCI state associated with a first TRP of the plurality of TCI states, and a second TCI state associated with a second TRP of the plurality of TCI states.

24. An apparatus for wireless communication, comprising:

means for initiating, at a user equipment (UE), measurements of received reference signals that are to be transmitted in a plurality of downlink transmission beams from a base station;

means for measuring, responsive to the initiating, one or more parameters of each of the received reference signals to generate a plurality of sets of measured beam parameters each associated with a corresponding downlink transmission beam;

means for reporting each of the plurality of sets of measured beam parameters to the base station;

means for receiving, responsive to the reporting the plurality of sets of measured beam parameters, a plurality of transmission configuration indicator (TCI) states associated with an order for receiving a subsequent plurality of sequential transmission beams from the base station;

means for determining that a repetitive order of transmission beam parameters corresponding to the plurality of TCI states is occurring, wherein the order for receiving the subsequent plurality of sequential transmission beams is based at least in part on the repetitive order; and

means for storing, at the UE, the plurality of TCI states.

25. An apparatus for wireless communication, comprising:

a processor;

memory in electronic communication with the processor; and

instructions stored in the memory and executable by the processor to cause the apparatus to:

initiate, at a user equipment (UE), measurements of received reference signals that are to be transmitted in a plurality of downlink transmission beams from a base station;

measure, responsive to the initiating, one or more parameters of each of the received reference signals to generate a plurality of sets of measured beam parameters each associated with a corresponding downlink transmission beam;

report each of the plurality of sets of measured beam parameters to the base station;

receive, responsive to the reporting the plurality of sets of measured beam

parameters, a plurality of transmission configuration indicator (TCI) states associated with an order for receiving a subsequent plurality of sequential transmission beams from the base station;

determine that a repetitive order of transmission beam parameters corresponding to the plurality of TCI states is occurring, wherein the order for receiving the subsequent plurality of sequential transmission beams is based at least in part on the repetitive order; and

store, at the UE, the plurality of TCI states.

26. The apparatus of claim 25, wherein the instructions are further executable by the processor to cause the apparatus to:

receive, from the base station, a second indication that the base station is starting transmission of the plurality of sequential transmission beams; and

apply the plurality of TCI states in a deterministic manner to generate receive beamforming parameters for use in receiving each transmission beam of the plurality of sequential transmission beams.

27. The apparatus of claim 26, wherein the applying the plurality of TCI states comprises identifying a first TCI state of the plurality of TCI states for a first transmission beam of the plurality of sequential transmission beams, and identifying subsequent TCI states of the plurality of TCI states for remaining transmission beams of the plurality of sequential transmission beams based at least in part on the first TCI state and subsequent deterministic TCI states that follow the first TCI state.

28. The apparatus of claim 25, wherein the instructions are further executable by the processor to cause the apparatus to:

receive a trigger for an aperiodic channel state information reference signal (CSI-RS) measurement from the base station;

receive the CSI-RS using a TCI state selected from the plurality of TCI states;

measure one or more channel quality parameters based on the CSI-RS; and

transmit the measured one or more channel quality parameters to the base station.

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

initiate, at a user equipment (UE), measurements of received reference signals that are to be transmitted in a plurality of downlink transmission beams from a base station;

measure, responsive to the initiating, one or more parameters of each of the received reference signals to generate a plurality of sets of measured beam parameters each associated with a corresponding downlink transmission beam;

report each of the plurality of sets of measured beam parameters to the base station;

receive, responsive to the reporting the plurality of sets of measured beam parameters, a plurality of transmission configuration indicator (TCI) states associated with an order for receiving a subsequent plurality of sequential transmission beams from the base station;

determine that a repetitive order of transmission beam parameters corresponding to the plurality of TCI states is occurring, wherein the order for receiving the subsequent plurality of sequential transmission beams is based at least in part on the repetitive order; and

store, at the UE, the plurality of TCI states.