CLAIMS

1. A method for wireless communications by a wireless node, comprising:

identifying one or more parameters for beamformed uplink reference signal transmission to a transmit receive point (TRP);

transmitting an uplink reference signal, wherein the uplink reference signal is beamformed in accordance with the one or more parameters; and

receiving, from the TRP in response to the uplink reference signal, signaling comprising adjustments to the one or more parameters for use in one or more subsequent beamformed uplink transmissions, the adjustments to the one or more parameters identifying a change to be applied to a value of the one or more parameters used to beamform the uplink reference signal.

2. The method of claim 1, wherein the one or more parameters comprise at least one of a beam direction, a rank, or a modulation and coding scheme (MCS).

3. The method of claim 1, wherein the adjustments to the one or more parameters comprise an adjustment relative to a beam direction of the beamformed uplink reference signal.

4. The method of claim 1, wherein the identifying is based on information received from the TRP.

5. The method of claim 4, wherein the information comprises an indication of a precoder matrix index.

6. The method of claim 4, wherein the information comprises interference information estimated by the TRP.

7. The method of claim 4, wherein the information is received via one of broadcast or groupcast signaling.

8. The method of claim 1, wherein the identifying comprises selecting a beam for

transmitting the uplink reference signal based on at least one of a channel condition or a TRP interference profile.

9. The method of claim 1, wherein the identifying comprises selecting a beam direction for transmitting the uplink reference signal by cycling through a predefined codebook.

10. The method of claim 1, wherein the identifying comprises selecting a beam direction for transmitting the uplink reference signal using cyclic delay diversity.

11. The method of claim 1, wherein the uplink reference signal comprises one of a channel state information reference signal (CSI-RS) or a sounding reference signal (SRS).

12. The method of claim 1, further comprising:

receiving, from the TRP, one of information about measured signal strength of the beamformed uplink reference signal or a change in measured signal strength of the beamformed uplink reference signal relative to a previously transmitted beamformed uplink reference signal; and

adjusting a direction of beam phase adjustment based, at least in part, on the information.

13. A method for wireless communications by a transmit receive point (TRP), comprising:

receiving, from a wireless node, a beamformed uplink reference signal;

determining, based on the beamformed uplink reference signal, adjustments to one or more parameters for the wireless node to use in one or more subsequent beamformed uplink transmissions, the adjustments to the one or more parameters identifying a change to be applied to a value of the one or more parameters used to beamform the uplink reference signal; and

signaling the adjustments to the one or more parameters to the wireless node.

14. The method of claim 13, wherein the one or more parameters comprise at least one of a beam direction, a rank, or a modulation and coding scheme (MCS).

15. The method of claim 13, wherein the adjustments comprise an indication of an

adjustment, for subsequent uplink transmissions, relative to a beam direction the wireless node used for the beamformed uplink reference signal.

16. The method of claim 13, further comprising:

transmitting, to the wireless node, information identifying the one or more parameters for beamformed uplink transmission.

17. The method of claim 16, wherein the information comprises an indication of a precoder matrix index.

18. The method of claim 16, wherein the information comprises interference estimation information estimated by the TRP.

19. The method of claim 16, wherein the information is transmitted via one of broadcast or groupcast signaling.

20. The method of claim 13, wherein determining the adjustments to the one or more parameters comprises generating a down-selected set of beams for a group of wireless nodes based, at least in part, on mutual interference between wireless nodes in the group.

21. The method of claim 20, further comprising:

selecting a modulation and coding scheme for the wireless node and the one or more other wireless nodes based on the down-selected group of beams.

22. The method of claim 20, further comprising:

receiving, from a neighbor TRP, information indicating that the wireless node is causing interference to the neighbor TRP; and

excluding the wireless node from the group of wireless nodes.

23. The method of claim 22, wherein the information indicating that the wireless node is causing interference to the neighbor TRP is received via a backhaul link between the TRP and

the neighbor TRP.

24. An apparatus for wireless communications, comprising:

a processor configured to:

identify one or more parameters for beamformed uplink transmission to a transmit receive point (TRP),

transmit an uplink reference signal, wherein the uplink reference signal is beamformed in accordance with the one or more parameters, and

receive, from the TRP in response to the uplink reference signal, signaling comprising adjustments to the one or more parameters for use in one or more subsequent beamformed uplink transmissions, the adjustments to the one or more parameters identifying a change to be applied to a value of the one or more parameters used to beamform the uplink reference signal; and

a memory coupled to the processor.

25. The apparatus of claim 24, wherein the identifying is based on information received from the TRP.

26. The apparatus of claim 24, wherein the identifying comprises selecting a beam for transmitting the uplink reference signal based on at least one of a channel condition or a TRP interference profile.

27. The apparatus of claim 24, wherein the identifying comprises selecting a beam direction for transmitting the uplink reference signal by cycling through a predefined codebook.

28. An apparatus for wireless communications, comprising:

a processor configured to:

receive, from a wireless node, a beamformed uplink reference signal,

determine, based on the beamformed uplink reference signal, adjustments to one or more parameters for the wireless node to use in one or more subsequent beamformed uplink transmissions, the adjustments to the one or more parameters identifying a change

to be applied to a value of the one or more parameters used to beamform the uplink reference signal, and

signal the adjustments to the one or more parameters to the wireless node; and

a memory coupled to the processor.

29. The apparatus of claim 28, wherein determining the adjustments to the one or more parameters comprises generating a down-selected set of beams for a group of wireless nodes based, at least in part, on mutual interference between wireless nodes in the group.

30. The apparatus of claim 28, wherein the processor is further configured to select a modulation and coding scheme for the wireless node and the one or more other wireless nodes based on the down-selected group of beams.