

CLAIMS

1. A method for wireless communication at a user equipment (UE), comprising:

receiving a first indication of a first timing advance (TA) index for a first uplink channel and a second indication of a second TA index for a second uplink channel, the UE configured to communicate with a first transmit receive point (TRP) on the first uplink channel and a second TRP on the second uplink channel;

receiving a sounding reference signal (SRS) resource index (SRI);

identifying, based at least in part on the received SRI, the first TA index for the first uplink channel for the first TRP and the second TA index for the second uplink channel for the second TRP;

determining a first TA for the first uplink channel and a second TA for the second uplink channel, the first TA based at least in part on the first indication of the first TA index and the second TA based at least in part on the second indication of the second TA index; and

transmitting on the first uplink channel to the first TRP according to the first TA and on the second uplink channel to the second TRP according to the second TA.

2. The method of claim 1, wherein receiving the first indication of the first TA index for the first uplink channel and the second indication of the second TA index for the second uplink channel comprises:

receiving, via radio resource control (RRC) signaling, a sounding reference signal (SRS) resource, or a resource set configuration, or an uplink control channel resource configuration, that includes the first TA index and the second TA index.

3. The method of claim 1, wherein the SRI is received in downlink control information.

4. The method of claim 1, further comprising:

receiving a first TA command for the first TRP and a second TA command for the second TRP; and

identifying that the UE is to transmit to the first TRP, wherein the first TA for the first uplink channel is determined based at least in part on the first TA command by identifying that the UE is to transmit to the first TRP.

5. The method of claim 1, further comprising:

identifying that the UE is to transmit to the second TRP on the second uplink channel, wherein the second TA for the second uplink channel is determined based at least in part on a second TA command that includes the second TA index; and

transmitting on the second uplink channel to the second TRP according to the second TA.

6. The method of claim 1, further comprising:

identifying a collision between a first signal to be transmitted on the first uplink channel and a second signal to be transmitted on the second uplink channel;

identifying a priority between a first TA command for the first uplink channel and a second TA command for the second uplink channel; and

dropping the first signal or the second signal based at least in part on the identified priority.

7. The method of claim 6, wherein identifying the priority between the first

TA command for the first uplink channel and the second TA command for the second uplink channel comprises:

prioritizing the first TA command over the second TA command based at least in part on the first TA command being associated with a primary TRP, or a semi-static configuration indicating the priority, or a service associated with the first signal to be transmitted on the first uplink channel, or the first TA command having been received more recently than the second TA command, or a combination thereof.

8. The method of claim 1, further comprising:

identifying a collision between a first signal to be transmitted on the first uplink channel and a second signal to be transmitted on the second uplink channel;

spatially multiplexing the first uplink channel and the second uplink channel in accordance with a spatial multiplexing configuration; and

simultaneously transmitting the first signal and the second signal on the spatially multiplexed uplink channel and the second uplink channel.

9. The method of claim 1, wherein the first uplink channel to the first TRP

comprises one of a sounding reference signal resource, or a physical uplink shared channel, or a

physical uplink control channel.

10. The method of claim 9, wherein the second uplink channel to the second TRP comprises a different one of the sounding reference signal resource, or the physical uplink shared channel, or the physical uplink control channel.

11. The method of claim 9, wherein the second uplink channel to the second TRP comprises a same one of the sounding reference signal resource, or the physical uplink shared channel, or the physical uplink control channel.

12. The method of claim 1, wherein the UE is configured to communicate with the first TRP and the second TRP in a same component carrier.

13. A method for wireless communication at a base station, comprising:
identifying a first timing advance (TA) index for a first uplink channel and a second TA index for a second uplink channel;

identifying a configuration for a UE to communicate with a first transmit receive point (TRP) at the base station on the first uplink channel and a second on the second uplink channel;

transmitting a sounding reference signal (SRS) resource index (SRI) that indicates the first TA index and the second TA index; and

transmitting, to the UE based at least in part on the identified configuration, a first indication of the first TA index for the first uplink channel to the first TRP and a second indication of the second TA index for the second uplink channel to the second TRP, the first TA index to be used by the UE to determine a first TA for the first uplink channel and the second TA index to be used by the UE to determine a second TA for the second uplink channel.

14. The method of claim 13, wherein transmitting the first indication of the first TA index for the first uplink channel and the second indication of the second TA index for the second uplink channel comprises:

transmitting, via radio resource control (RRC) signaling, a sounding reference signal (SRS) resource, or a resource set configuration, or an uplink control channel resource configuration, that includes the first TA index and the second TA index.

15. The method of claim 13, wherein the SRI is transmitted in downlink

control information.

16. The method of claim 13, further comprising:

transmitting the second indication of the second TA index for the second uplink channel to the second TRP to the UE based at least in part on the identified configuration.

17. The method of claim 13, wherein the first uplink channel to the first TRP

comprises a sounding reference signal resource, or a physical uplink shared channel, or a physical uplink control channel.

18. The method of claim 17, wherein the second uplink channel to the second

TRP comprises a different one of the sounding reference signal resource, or the physical uplink shared channel, or the physical uplink control channel.

19. The method of claim 17, wherein the second uplink channel to the second

TRP comprises a same one of the sounding reference signal resource, or the physical uplink shared channel, or the physical uplink control channel.

20. An apparatus for wireless communication at a user equipment (UE),

comprising:

a processor,

memory coupled with the processor; and

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

apparatus to:

receive a first indication of a first timing advance (TA) index for a first uplink channel and a second indication of a second TA index for a second uplink channel, the UE configured to communicate with a first transmit receive point (TRP) on the first uplink channel and a second TRP on the second uplink channel;

receive a sounding reference signal (SRS) resource index (SRI);

identify, based at least in part on the received SRI, the first TA index for the first uplink channel for the first TRP and the second TA index for the second uplink channel for the second TRP;

determine a first TA for the first uplink channel and a second TA for the second uplink channel, the first TA based at least in part on the first indication of the first

TA index and the second TA based at least in part on the second indication of the second TA index; and

transmit on the first uplink channel to the first TRP according to the first TA and on the second uplink channel to the second TRP according to the second TA.

21. The apparatus of claim 20, wherein the instructions to receive the first indication of the first TA index for the first uplink channel and the second indication of the second TA index for the second uplink channel are executable by the processor to cause the apparatus to:

receive, via radio resource control (RRC) signaling, a sounding reference signal (SRS) resource, or a resource set configuration, or an uplink control channel resource configuration, that includes the first TA index and the second TA index.

22. The apparatus of claim 20, wherein the instructions are further executable by the processor to cause the apparatus to:

receive a first TA command for the first TRP and a second TA command for the second TRP; and

identify that the UE is to transmit to the first TRP, wherein the first TA for the first uplink channel is determined based at least in part on the first TA command by identifying that the UE is to transmit to the first TRP.

23. The apparatus of claim 20, wherein the instructions are further executable by the processor to cause the apparatus to:

identify a collision between a first signal to be transmitted on the first uplink channel and a second signal to be transmitted on the second uplink channel;

identify a priority between a first TA command for the first uplink channel and a second TA command for the second uplink channel; and

drop the first signal or the second signal based at least in part on the identified priority.

24. The apparatus of claim 20, wherein the instructions are further executable by the processor to cause the apparatus to:

identify a collision between a first signal to be transmitted on the first uplink channel and a second signal to be transmitted on the second uplink channel;

spatially multiplex the first uplink channel and the second uplink channel in accordance with a spatial multiplexing configuration; and

simultaneously transmit the first signal and the second signal on the spatially multiplexed uplink channel and the second uplink channel.

25. An apparatus for wireless communication at a base station, comprising:
a processor,
memory coupled with the processor; and
instructions stored in the memory and executable by the processor to cause the apparatus to:

identify a first timing advance (TA) index for a first uplink channel and a second TA index for a second uplink channel;

identify a configuration for a UE to communicate with a first transmit receive point (TRP) at the base station on the first uplink channel and a second TRP on the second uplink channel;

transmit a sounding reference signal (SRS) resource index (SRI) that indicates the first TA index and the second TA index; and

transmit, to the UE based at least in part on the identified configuration, a first indication of the first TA index for the first uplink channel to the first TRP and a second indication of the second TA index for the second uplink channel to the second TRP, the first TA index to be used by the UE to determine a first TA for the first uplink channel and the second TA index to be used by the UE to determine a second TA for the second uplink channel.

26. The apparatus of claim 25, wherein the instructions to transmit the first indication of the first TA index for the first uplink channel and the second indication of the second TA index for the second uplink channel are executable by the processor to cause the apparatus to:

transmit, via radio resource control (RRC) signaling, a sounding reference signal (SRS) resource, or a resource set configuration, or an uplink control channel resource configuration, that includes the first TA index and the second TA index.