CLAIMS

1. A method for transmitting a channel sounding reference signal (SRS), comprising:

determining, by a network device, multiple symbols for transmitting SRSs in a first uplink subframe; and

transmitting, by the network device, first indication information to each terminal device in multiple terminal devices, the first indication information indicating a symbol corresponding to each terminal device in the multiple symbols, a first terminal device in the multiple terminal devices corresponding to a first symbol in the multiple symbols, and the first symbol being used to transmit an SRS of the first terminal device.

2. The method of claim 1, wherein a number of subframes between the first uplink subframe and a first downlink subframe after the first uplink subframe is less than or equal to a predetermined number.

3. The method of claim 1 or 2, wherein the first uplink subframe is followed by a downlink subframe.

4. The method of any one of claims 1-3, wherein a length of the first symbol for transmitting the SRS of the first terminal device is unequal to a length of a second symbol for transmitting downlink data of the first terminal device.

5. The method of any one of claims 1-4, further comprising:

determining, by the network device, a frequency-domain resource for transmitting the SRS of the first terminal device,

wherein the first indication information transmitted to the first terminal device by the network device further indicates the frequency-domain resource for transmitting the SRS of the first terminal device.

6. The method of any one of claims 1-5, wherein a frequency-domain range configured for transmission of downlink data of the first terminal device is as same as a frequency-domain range configured for transmission of the SRS of the first terminal device.

7. The method of any one of claims 1-6, further comprising:

receiving, by the network device, second indication information indicating a channel aging speed of the first terminal device from the first terminal device.

8. The method of claim 7, further comprising:

determining, by the network device, a second symbol for transmitting downlink data of the first terminal device according to the channel aging speed,

wherein the first indication information transmitted to the first terminal device by the network device further indicates the second symbol for transmitting the downlink data of the first terminal device.

9. The method of claim 7 or 8, wherein the multiple symbols further comprise a symbol for transmitting an SRS of a second terminal device, the channel aging speed of the first terminal device is higher than a channel aging speed of the second terminal device,

the first symbol for transmitting the SRS of the first terminal device is arranged after the symbol for transmitting the SRS of the second terminal device, and the second symbol for transmitting the downlink data of the first terminal device is arranged before a symbol for transmitting downlink data of the second terminal device.

10. The method of any one of claims 7-9, wherein the second indication information comprises a magnitude of the channel aging speed of the first terminal device or a speed level corresponding to the channel aging speed of the first terminal device.

11. A method for transmitting a channel sounding reference signal (SRS), comprising:

receiving, by a first terminal device, first indication information from a network device, the first indication information indicating a first symbol for transmitting an SRS of the first terminal device in a first uplink subframe, the first uplink subframe comprising multiple symbols for transmitting SRSs of multiple terminal devices, the multiple terminal devices comprising the first terminal device and the multiple symbols comprising the first symbol; and

transmitting, by the first terminal device, the SRS of the first terminal device to the network device on the first symbol.

12. The method of claim 11, wherein a number of subframes between the first uplink subframe and a first downlink subframe after the first uplink subframe is less than or equal to a predetermined number.

13. The method of claim 11 or 12, wherein the first uplink subframe is followed by a downlink subframe.

14. The method of any one of claims 11-13, wherein a length of the first symbol for transmitting the SRS of the first terminal device is unequal to a length of a second symbol for transmitting downlink data of the first terminal device.

15. The method of any one of claims 11-14, wherein the first indication information received from the network device by the first terminal device further indicates a frequency-domain resource for transmitting the SRS of the first terminal device.

16. The method of any one of claims 11-15, wherein a frequency-domain range configured for transmission of the downlink data of the first terminal device is the same as a frequency-domain range configured for transmission of the SRS of the first terminal device.

17. The method of any one of claims 11-16, further comprising:

transmitting, by the first terminal device, second indication information indicating a channel aging speed of the first terminal device to the network device,

wherein the first indication information received from the network device by the first terminal device further indicates the second symbol for transmitting the downlink data of the first terminal device.

18. The method of claim 17, wherein the multiple symbols further comprise a symbol for transmitting an SRS of a second terminal device, the channel aging speed of the first terminal device is higher than a channel aging speed of the second terminal device,

the first symbol for transmitting the SRS of the first terminal device is arranged after the symbol for transmitting the SRS of the second terminal device, and the second symbol for transmitting the downlink data of the first terminal device is arranged before

a symbol for transmitting downlink data of the second terminal device.

19. The method of claim 17 or 18, wherein the second indication information comprises a magnitude of the channel aging speed of the first terminal device or a speed level corresponding to the channel aging speed of the first terminal device.

20. A method for transmitting a channel sounding reference signal (SRS), comprising:

receiving, by a network device, indication information indicating a channel aging speed of a first terminal device from the first terminal device; and

determining, by the network device, a first symbol for transmitting an SRS of the first terminal device and a second symbol for transmitting downlink data of the first terminal device according to the channel aging speed,

wherein the channel aging speed of the first terminal device is higher than a channel aging speed of a second terminal device, and

the first symbol for transmitting the SRS of the first terminal device is arranged after a symbol for transmitting an SRS of the second terminal device, and the second symbol for transmitting the downlink data of the first terminal device is arranged before a symbol for transmitting downlink data of the second terminal device.

21. The method of claim 20, wherein the indication information comprises a magnitude of the channel aging speed of the first terminal device or a speed level corresponding to the channel aging speed of the first terminal device.

22. A method for transmitting a channel sounding reference signal (SRS), comprising:

transmitting, by a first terminal device, indication information indicating a channel aging speed of the first terminal device to a network device,

wherein the channel aging speed of the first terminal device is higher than a channel aging speed of a second terminal device, and

a first symbol for transmitting an SRS of the first terminal device is arranged after a symbol for transmitting an SRS of the second terminal device, and a second symbol for transmitting downlink data of the first terminal device is arranged before a symbol for transmitting downlink data of the second terminal device.

23. The method of claim 22, wherein the indication information comprises a magnitude of the channel aging speed of the first terminal device or a speed level corresponding to the channel aging speed of the first terminal device.

24. A network device for transmitting a channel Sounding Reference Signal (SRS), comprising:

a determination module, configured to determine multiple symbols for transmitting SRSs in a first uplink subframe; and

a transmitting module, configured to transmit first indication information to each terminal device in multiple terminal devices, the first indication information indicating a symbol corresponding to each terminal device in the multiple symbols determined by the determination module, a first terminal device in the multiple terminal devices corresponding to a first symbol in the multiple symbols and the first symbol being used to transmit an SRS of the first terminal device.

25. The network device of claim 24, wherein a number of subframes between the first uplink subframe and a first downlink subframe after the first uplink subframe is less than or equal to a predetermined number.

26. The network device of claim 24 or 25, wherein the first uplink subframe is followed by a downlink subframe.

27. The network device of any one of claims 24-26, wherein a length of the first symbol for transmitting the SRS of the first terminal device is unequal to a length of a second symbol for transmitting downlink data of the first terminal device.

28. The network device of any one of claims 24-27, wherein the determination module is further configured to:

determine a frequency-domain resource for transmitting the SRS of the first terminal device,

the first indication information transmitted to the first terminal device by the transmitting module further indicating the frequency-domain resource for transmitting the SRS of the first terminal device.

29. The network device of any one of claims 24-28, wherein a frequency-domain range configured for transmission of downlink data of the first terminal device is as same as a frequency-domain range configured for transmission of the SRS of the first terminal device.

30. The network device of any one of claims 24-29, further comprising:

a receiving module, configured to receive second indication information indicating a channel aging speed of the first terminal device from the first terminal device.

31. The network device of claim 30, further comprising a determination module, configured to:

determine a second symbol for transmitting downlink data of the first terminal device according to the channel aging speed,

wherein the first indication information transmitted to the first terminal device by the network device further indicates the second symbol for transmitting the downlink data of the first terminal device.

32. The network device of claim 31, wherein the multiple symbols further comprise a symbol for transmitting an SRS of a second terminal device, the channel aging speed of the first terminal device is higher than a channel aging speed of the second terminal device,

the first symbol for transmitting the SRS of the first terminal device is arranged after a symbol for transmitting an SRS of the second terminal device, and the second symbol for transmitting the downlink data of the first terminal device is arranged before a symbol for transmitting downlink data of the second terminal device.

33. The network device of claim 31 or 32, wherein the second indication information comprises a magnitude of the channel aging speed of the first terminal device or a speed level corresponding to the channel aging speed of the first terminal device.

34. A terminal device for transmitting a channel Sounding Reference Signal (SRS),

comprising:

a receiving module, configured to receive first indication information from a network device, the first indication information indicating a first symbol for transmitting an SRS of the first terminal device in a first uplink subframe, the first uplink subframe comprising multiple symbols for transmitting SRSs of multiple terminal devices, the multiple terminal devices comprising the first terminal device and the multiple symbols comprising the first symbol; and

a transmitting module, configured to transmit the SRS of the first terminal device to the network device on the first symbol received by the receiving module.

35. The terminal device of claim 34, wherein a number of subframes between the first uplink subframe and a first downlink subframe after the first uplink subframe is less than or equal to a predetermined number.

36. The terminal device of claim 34 or 35, wherein the first uplink subframe is followed by a downlink subframe.

37. The terminal device of any one of claims 34-35, wherein a length of the first symbol for transmitting the SRS of the first terminal device is unequal to a length of a second symbol for transmitting downlink data of the first terminal device.

38. The terminal device of any one of claims 34-37, wherein the first indication information received from the network device by the first terminal device further indicates a frequency-domain resource for transmitting the SRS of the first terminal device.

39. The terminal device of any one of claims 34-38, wherein a frequency-domain resource configured for transmission of downlink data of the first terminal device is as same as the frequency-domain range configured for transmission of the SRS of the first terminal device.

40. The terminal device of any one of claims 34-39, wherein the transmitting module is further configured to:

transmit second indication information indicating a channel aging speed of the first terminal device to the network device,

the first indication information received from the network device by the receiving module further indicating a position of the second symbol for transmitting the downlink data of the first terminal device.

41. The terminal device of claim 40, wherein the multiple symbols further comprise a symbol for transmitting an SRS of a second terminal device, the channel aging speed of the first terminal device is higher than a channel aging speed of the second terminal device,

the first symbol for transmitting the SRS of the first terminal device is arranged after a symbol for transmitting an SRS of the second terminal device, and the second symbol for transmitting the downlink data of the first terminal device is arranged before a symbol for transmitting downlink data of the second terminal device.

42. The terminal device of claim 40 or 41, wherein the second indication information comprises a magnitude of the channel aging speed of the first terminal device or a speed level corresponding to the channel aging speed of the first terminal device.

43. A network device for transmitting a channel Sounding Reference Signal (SRS), comprising:

a receiving module, configured to receive indication information indicating a channel aging speed of a first terminal device from the first terminal device;

a determination module, configured to determine a first symbol for transmitting an SRS of the first terminal device and a second symbol for transmitting downlink data of the first terminal device according to the channel aging speed received by the receiving module; and

wherein the channel aging speed of the first terminal device is higher than a channel aging speed of a second terminal device, and

the first symbol for transmitting the SRS of the first terminal device is arranged after a symbol for transmitting an SRS of the second terminal device, and the second symbol for transmitting downlink data of the first terminal device is arranged before a symbol for transmitting downlink data of the second terminal device.

44. The network device of claim 43, wherein the indication information comprises a magnitude of the channel aging speed of the first terminal device or a speed level corresponding to the channel aging speed of the first terminal device.

45. A terminal device for transmitting a channel Sounding Reference Signal (SRS), comprising:

a transmitting module, configured to transmit indication information indicating a channel aging speed of a first terminal device to a network device,

wherein the channel aging speed of the first terminal device is higher than a channel aging speed of a second terminal device, and

a first symbol for transmitting an SRS of the first terminal device is arranged after a symbol for transmitting an SRS of the second terminal device, and a second symbol for transmitting downlink data of the first terminal device is arranged before a symbol for transmitting downlink data of the second terminal device.

46. The terminal device of claim 45, wherein the indication information comprises a magnitude of the channel aging speed of the first terminal device or a speed level corresponding to the channel aging speed of the first terminal device.