CLAIMS

1. An apparatus comprising:

a receiver unit operative to receive at least one interference report from at least one neighbor sector, wherein an interference report for each neighbor sector indicates an amount of interference observed by the neighbor sector due to transmissions from terminals in other sectors; and

a controller operative to regulate data transmissions for terminals in a sector based on the at least one interference report from the at least one neighbor sector.

2. The apparatus of claim 1, wherein the interference report for each neighbor sector indicates whether the neighbor sector observes excessive interference greater than a predetermined threshold.

3. The apparatus of claim 1, wherein the controller is operative to control admission of terminals to the sector based on the at least one interference report from the at least one neighbor sector.

4. The apparatus of claim 3, wherein the controller is operative to control admission of terminals to the sector further based on user priority class, quality of service (QoS) class, or a combination thereof.

5. The apparatus of claim 1, wherein the controller is operative to deny access to the sector or to de-assign terminals already granted access to the sector if any one of the at least one neighbor sector observes excessive interference.

6. The apparatus of claim 1, wherein the controller is operative to control loading of the sector based on the at least one interference report from the at least one neighbor sector.

7. The apparatus of claim 1, wherein the controller is operative to schedule the terminals in the sector for data transmission based on the at least one interference report from the at least one neighbor sector.

8. The apparatus of claim 1, wherein the controller is operative to reduce data rate for at least one of the terminals in the sector if any one of the at least one neighbor sector observes excessive interference.

9. The apparatus of claim 1, wherein the controller is operative to assign traffic channels to the terminals in the sector based on the at least one interference report from the at least one neighbor sector.

10. The apparatus of claim 1, further comprising:

a transmitter unit operative to broadcast the at least one interference report from the at least one neighbor sector to the terminals in the sector.

11. An apparatus comprising:

means for receiving at least one interference report from at least one neighbor sector, wherein an interference report for each neighbor sector indicates an amount of interference observed by the neighbor sector due to transmissions from terminals in other sectors; and

means for regulating data transmissions for terminals in a sector based on the at least one interference report from the at least one neighbor sector.

12. The apparatus of claim 11, wherein the means for regulating the data transmissions for the terminals in the sector comprises

means for controlling admission of terminals to the sector based on the at least one interference report from the at least one neighbor sector.

13. The apparatus of claim 11, wherein the means for regulating the data transmissions for the terminals in the sector comprises

means for scheduling the terminals in the sector for data transmission based on the at least one interference report from the at least one neighbor sector.

14. The apparatus of claim 11, wherein the means for regulating the data transmissions for the terminals in the sector comprises

means for assigning traffic channels to the terminals in the sector based on the at least one interference report from the at least one neighbor sector.

15. A method of controlling interference in a communication system, comprising:

receiving at least one interference report from at least one neighbor sector, wherein an interference report for each neighbor sector indicates an amount of interference observed by the neighbor sector due to transmissions from terminals in other sectors; and

regulating data transmissions for terminals in a sector based on the at least one interference report from the at least one neighbor sector.

16. The method of claim 15, wherein the regulating the data transmissions for the terminals in the sector comprises

controlling admission of terminals to the sector based on the at least one interference report from the at least one neighbor sector.

17. The method of claim 15, wherein the regulating the data transmissions for the terminals in the sector comprises

scheduling the terminals in the sector for data transmission based on the at least one interference report from the at least one neighbor sector.

18. The method of claim 15, wherein the regulating the data transmissions for the terminals in the sector comprises

assigning traffic channels to the terminals in the sector based on the at least one interference report from the at least one neighbor sector.

19. An apparatus comprising:

a processor operative to estimate interference observed by a sector due to transmissions from terminals in neighbor sectors and to provide an interference estimate; and

a controller operative to generate an interference report based on the interference estimate, wherein the interference report indicates one of multiple possible levels of interference observed by the sector.

20. The apparatus of claim 19, wherein the interference report conveys the interference observed by the sector relative to at least two thresholds.

21. The apparatus of claim 19, wherein the interference report indicates whether the interference observed by the sector is below a first threshold, is between the first threshold and a second threshold, or exceeds the second threshold.

22. The apparatus of claim 19, further comprising:

a transmitter unit operative to broadcast the interference report to the terminals in the neighbor sectors.

23. The apparatus of claim 19, wherein the controller is operative to generate a second interference report based on the interference estimate, and wherein the second interference report comprises more detailed information for the interference observed by the sector than the interference report.

24. The apparatus of claim 23, wherein the controller is operative to send the second interference report to at least one of the neighbor sectors.

25. The apparatus of claim 23, wherein the controller is operative to generate the second interference report if the interference estimate is above a predetermined threshold or if at least one of the neighbor sectors requests for the second interference report.

26. An apparatus comprising:

a communication unit operative to receive at least one interference report from at least one neighbor sector, wherein an interference report for each neighbor sector indicates one of multiple possible levels of interference observed by the neighbor sector; and

a controller operative to adjust transmit power based on the at least one interference report.

27. The apparatus of claim 26, wherein the interference report for each neighbor sector indicates whether the neighbor sector observes excessive interference greater than a predetermined threshold.

28. The apparatus of claim 26, wherein the controller is operative to adjust the transmit power by different amounts for different levels of interference observed by the at least one neighbor sector.

29. The apparatus of claim 26, wherein the controller is operative to adjust the transmit power at different rates for different levels of interference observed by the at least one neighbor sector.

30. The apparatus of claim 26, wherein the controller is operative to determine a rate of adjustment for the transmit power based on a user priority class or a quality of service (QoS) class and to adjust the transmit power at the determined rate.

31. The apparatus of claim 26, wherein the controller is operative to identify a strongest neighbor sector among the at least one neighbor sector and to adjust the transmit power based on an interference report received from the strongest neighbor sector.

32. The apparatus of claim 26, wherein the controller is operative to adjust the transmit power further based on interference reports received previously from the at least one neighbor sector.

33. The apparatus of claim 26, wherein the controller is operative to selectively apply a low transmit power limit to the transmit power based on the at least one interference report from the at least one neighbor sector.

34. An apparatus comprising:

means for receiving at least one interference report from at least one neighbor sector, wherein an interference report for each neighbor sector indicates one of multiple possible levels of interference observed by the neighbor sector; and

means for adjusting transmit power based on the at least one interference report.

35. The apparatus of claim 34, wherein the means for adjusting the transmit power comprises

means for adjusting the transmit power by different amounts for different levels of interference observed by the at least one neighbor sector.

36. The apparatus of claim 34, wherein the means for adjusting the transmit power comprises

means for adjusting the transmit power at different rates for different levels of interference observed by the at least one neighbor sector.

37. The apparatus of claim 34, further comprising:

means for identifying a strongest neighbor sector among the at least one neighbor sector, and wherein the means for adjusting the transmit power comprises means for adjusting the transmit power based on an interference report received from the strongest neighbor sector.

38. A method of controlling interference in a communication system, comprising:

receiving at least one interference report from at least one neighbor sector, wherein an interference report for each neighbor sector indicates one of multiple possible levels of interference observed by the neighbor sector; and

adjusting transmit power based on the at least one interference report.

39. The method of claim 38, wherein the adjusting the transmit power comprises

adjusting the transmit power by different amounts for different levels of interference observed by the at least one neighbor sector.

40. The method of claim 38, wherein the adjusting the transmit power comprises

adjusting the transmit power at different rates for different levels of interference observed by the at least one neighbor sector.

41. The method of claim 38, further comprising:

identifying a strongest neighbor sector among the at least one neighbor sector, and wherein the adjusting the transmit power comprises adjusting the transmit power based on an interference report received from the strongest neighbor sector.

CLAIMS

1. A method for interference control, the method being implemented by a sector, the method comprising:

obtaining a measured interference that represents an estimate of interference observed at the sector due to transmissions from terminals in other sectors;

generating an interference report based on the measured interference, wherein the interference report conveys the measured interference for the sector relative to multiple interference thresholds; and

broadcasting the interference report to the terminals in the other sectors.

2. The method of claim **1**, wherein the measured interference is a measured interference-over-thermal.

3. The method of claim **1**, further comprising broadcasting interference reports received from other sectors to terminals being served by the sector.

4. A method for interference control, the method being implemented by a terminal, the method comprising:

receiving an interference report that is broadcast by a neighbor sector, wherein the interference report conveys measured interference for the neighbor sector relative to multiple interference thresholds; and

adjusting transmit power of the terminal based on the interference report.

5. The method of claim **4**, further comprising:

receiving multiple interference reports from multiple neighbor sectors; and

identifying a strongest neighbor sector;

wherein the transmit power of the terminal is adjusted based only on the interference report from the strongest neighbor sector.

6. The method of claim **4**, further comprising receiving multiple interference reports from multiple neighbor sectors, wherein the transmit power of the terminal is adjusted based only on the interference reports from the neighbor sectors that are included in an other-sector interference set.

7. The method of claim **6**, wherein adjusting the transmit power comprises decreasing the transmit power if any neighbor sector in the other-sector interference set observes high or excessive interference.

8. The method of claim **6**, wherein adjusting the transmit power comprises:

determining a transmit power adjustment for each neighbor sector in the other-sector interference set; and

combining transmit power adjustments for all neighbor sectors in the other-sector interference set to obtain an overall transmit power adjustment.

9. A sector that is configured for interference control, comprising:

a processor;

memory in electronic communication with the processor; and

instructions stored in the memory, the instructions being executable to:

obtain a measured interference that represents an estimate of interference observed at the sector due to transmissions from terminals in other sectors;

generate an interference report based on the measured interference, wherein the interference report conveys the measured interference for the sector relative to multiple interference thresholds; and

broadcast the interference report to the terminals in the other sectors.

10. The sector of claim **9**, wherein the measured interference is a measured interference-over-thermal.

11. The sector of claim **9**, wherein the instructions are also executable to broadcast interference reports received from other sectors to terminals being served by the sector.

12. A terminal configured for interference control, comprising:

a processor;

memory in electronic communication with the processor; and

instructions stored in the memory, the instructions being executable to:

receive an interference report that is broadcast by a neighbor sector, wherein the interference report conveys measured interference for the neighbor sector relative to multiple interference thresholds; and

adjust transmit power of the terminal based on the interference report.

13. The terminal of claim **12**, wherein the instructions are also executable to receive multiple interference reports from multiple neighbor sectors and to identify a strongest neighbor sector, wherein the transmit power of the terminal is adjusted based only on the interference report from the strongest neighbor sector.

14. The terminal of claim **12**, wherein the instructions are also executable to receive multiple interference reports from multiple neighbor sectors, and wherein the transmit power of the terminal is adjusted based only on the interference reports from the neighbor sectors that are included in an other-sector interference set.

15. The terminal of claim **14**, wherein adjusting the transmit power comprises decreasing the transmit power if any neighbor sector in the other-sector interference set observes high or excessive interference.

16. The terminal of claim **14**, wherein adjusting the transmit power comprises:

determining a transmit power adjustment for each neighbor sector in the other-sector interference set; and

combining transmit power adjustments for all neighbor sectors in the other-sector interference set to obtain an overall transmit power adjustment.

17. A sector that is configured for interference control, comprising:

means for obtaining a measured interference that represents an estimate of interference observed at the sector due to transmissions from terminals in other sectors;

means for generating an interference report based on the measured interference, wherein the interference report conveys the measured interference for the sector relative to multiple interference thresholds; and

means for broadcasting the interference report to the terminals in the other sectors.

18. A terminal that is configured for interference control, comprising:

means for receiving an interference report that is broadcast by a neighbor sector, wherein the interference report conveys measured interference for the neighbor sector relative to multiple interference thresholds; and

means for adjusting transmit power of the terminal based on the interference report.

19. The terminal of claim **18**, further comprising:

means for receiving multiple interference reports from multiple neighbor sectors; and

means for identifying a strongest neighbor sector;

wherein the transmit power of the terminal is adjusted based only on the interference report from the strongest neighbor sector.

20. The terminal of claim **18**, further comprising means for receiving multiple interference reports from multiple neighbor sectors, wherein the transmit power of the terminal is adjusted based only on the interference reports from the neighbor sectors that are included in an other-sector interference set.

21. A non-transitory processor-readable storage medium, comprising:

code for causing a sector to obtain a measured interference that represents an estimate of interference observed at the sector due to transmissions from terminals in other sectors;

code for causing the sector to generate an interference report based on the measured interference, wherein the interference report conveys the measured interference for the sector relative to multiple interference thresholds; and

code for causing the sector to broadcast the interference report to the terminals in the other sectors.

22. A non-transitory processor-readable storage medium, comprising:

code for causing a terminal to receive an interference report that is broadcast by a neighbor sector, wherein the interference report conveys measured interference for the neighbor sector relative to multiple interference thresholds; and

code for causing the terminal to adjust transmit power of the terminal based on the interference report.

23. The processor-readable storage medium of claim **22**, further comprising:

code for causing the terminal to receive multiple interference reports from multiple neighbor sectors; and

code for causing the terminal to identify a strongest neighbor sector;

wherein the transmit power of the terminal is adjusted based only on the interference report from the strongest neighbor sector.

24. The processor-readable storage medium of claim **22**, further comprising code for causing the terminal to receive multiple interference reports from multiple neighbor sectors, wherein the transmit power of the terminal is adjusted based only on the interference reports from the neighbor sectors that are included in an other-sector interference set.