Abstract: A method of estimating a signal to interference ratio (SIR) comprising: estimating the signal power of a signal received at a first time estimating the interference power of a signal received at a second time preceding the first time; and combining the signal power estimate at the first time and the interference power estimate at the second time to produce an estimate of the signal to interference ratio at the first time.
1. A method comprising:
   receiving from a wireless channel at a first time a first signal;
   equalising the received first signal using a channel estimate for the wireless channel
   at a third time, preceding the first time;
   estimating signal power using the equalised first signal;
   estimating interference power; and
   combining the signal power estimate and the interference power estimate to produce
   an estimate of the signal to interference ratio.

2. A method as claimed in claim 1, wherein the channel estimate used for equalising
   the first signal is the most recently available channel estimate.

3. A method as claimed in claim 1 or 2, wherein the first signal is a pilot signal.

4. A method as claimed in any one of claims 1 to 3, wherein the first signal comprises
   pilot symbols of a DPCCH.

5. A method as claimed in any one of claims 1 to 4, wherein the first signal is a
   subset of a data slot or frame.

6. A method as claimed in any preceding claim, wherein estimating the interference
   power comprises:
   receiving from the wireless channel at a second time that precedes the first time, a
   second signal;
   equalising the second signal using an estimate for the wireless channel at the second
   time; and
   estimating interference power using the equalised second signal.

7. A method as claimed in claim 6, wherein the equalised second signal is used for
   data acquisition.
8. A method as claimed in any one of claims 1 to 5, wherein estimating the interference power comprises:
   receiving from the wireless channel a second signal;
   equalising the second signal using an estimate for the wireless channel at a second time preceding the first time; and
   estimating interference power using the equalised second signal.

9. A method as claimed in claim 6, 7 or 8, wherein the third time is the same as the second time.

10. A method as claimed in claim 6, 7 or 8, wherein the second time precedes the third time.

11. A method as claimed in any one of claims 8 to 10, wherein the second signal is a pilot signal.

12. A method as claimed in any one of claims 8 to 10, wherein the second signal is a common pilot signal.

13. A method as claimed in any preceding claim, wherein the signals are received via a wireless channel and the wireless channel is a physical downlink channel in a cellular radio telecommunications system.

14. A method as claimed in claim 13, wherein the wireless channel is a physical downlink channel for WCDMA.

15. A method as claimed in any preceding claim, wherein the first time is substantially contemporaneous with a current time.

16. An apparatus comprising:
   receiver circuitry arranged to receive from a wireless channel at a first time a first signal;
   an equaliser arranged, when solved using a channel estimate for the wireless channel at a third time, preceding the first time, to equalise the received first signal;
25. An apparatus as claimed in any one of claims 20 to 24, wherein the second signal is a pilot signal.

26. An apparatus as claimed in any one of claims 20 to 25, wherein the second signal is a common pilot signal.

27. A mobile telephone incorporating the apparatus as claimed in any one of claims 16 to 26.

28. A computer program comprising computer program instructions for:
controlling the solution of an equaliser for a channel estimate at a third time;
controlling the equalisation of a received first signal, received after the third time, by the equaliser when solved for a channel estimate at a third time, to produce an equalised first signal
estimating the signal power using the equalised first signal;
estimating the interference power; and
combining the signal power estimate and the interference power estimate to produce an estimate of the signal to interference ratio.

29. A computer program as claimed in claim 28, further comprising controlling the equalisation of a second signal, received on or after the third time, by the equaliser when solved for a channel estimate at the third time, to produce an equalised second signal wherein estimating the interference power uses the equalised second signal.

30. A computer program comprising computer program instructions for performing the method of any one of claims 1 to 15.

31. A computer program product embodying the computer program of claim 29 or 30.

32. A method comprising:
estimating the signal power of a signal received at a first time;
estimating the interference power of a signal received at a second time preceding the first time; and
combining the signal power estimate at the first time and the interference power estimate at the second time to produce an estimate of the signal to interference ratio at the first time.

49. A computer program comprising computer program instructions for performing the method of any one of claims 32 to 46.

50. A computer program product embodying the computer program of claim 48 or 49.

51. A method comprising:
   receiving from a wireless channel at a first time a first signal;
   equalising the received first signal using a channel estimate for the wireless channel at a second time, preceding the first time; and
   determining a signal power estimate using the equalised first signal.

52. An apparatus as claimed in any one of claims 16 to 26 and 47, embodied as a chip, chipset, module or device.