Media access protocol for packet access within a radio cell

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Pilot signals from the remote units allow rapid antenna adaption:
In cellular communication systems, it is desirable to use directional antennas to increase the signal-to-noise ratio of the communication link and reduce interference. However, a problem associated with directional antennas in mobile environments is that transmission environment can rapidly change between sequential packet transmissions. The base station must select an appropriate antenna configuration that is adaptive to the signal strength, as received from the mobile user during a time interval closely corresponding to transmission period. Such adoption requires a radio signal from the remote station to the base station on the basis of which antenna configuration can be selected.

Signaling improvements between base stations and multiple mobile units by providing pilot signals from the remote units for rapid antenna adaption:
The technology provides an improved method of signaling between a base station with a directional-beam antenna, and multiple mobile units which provide for pilot signals from the remote units for purposes of rapid antenna adaption.

Applications:
• Cellular and WiFi networks

Advantages:
• Technology is implemented entirely in software and has low requirements
• Software can be re-run over time to show new redundant paths and so forth


Licensing Status: Available for Licensing and Sponsored Research Support

Inventors

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