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(54) Title: FORWARD LINK POWER CONTROL IN A CELLULAR SYSTEM USING N_T/I_0 VALUES

(57) Abstract

A system and method is taught for controlling the power level of transmissions within a communication system having a base station, a mobile station, a communication channel, and a pilot channel. The mobile station determines a signal strength value according to a communication signal received by way of the communication channel. A pilot channel signal is determined according to a pilot signal transmitted by way of the pilot channel. The signal to noise ratio of the communication signal is determined according to the determined signal strength value and the pilot channel signal. The power level of a transmission is controlled according to the signal to noise ratio. The noise level in a communication channel within the communication system is estimated. The pilot channel signal includes pilot energy and pilot noise components. The pilot energy component is removed to provide a remaining pilot signal. Communication system operations are controlled according to the remaining pilot signal. The power levels of transmissions are controlled by determining the signal to noise ratio of a signal within the communication channel and determining a difference signal. The difference signal is formed by determining the difference between determined and desired signal to noise ratios. The difference signal is transmitted between the base station and the mobile station. The pilot channel has at least one frame and the power control signal is inserted into the frame. Thus, information representing the strength of the communication signal is transmitted to the base by way of the pilot channel within the frame. The pilot channel can have two information frames for transmitting the power control signal a plurality of times.

