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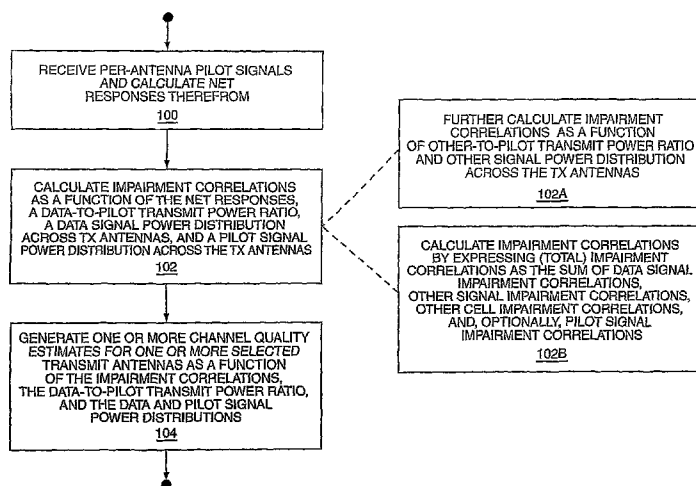
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(54) Title: A METHOD AND APPARATUS FOR IMPAIRMENT CORRELATION ESTIMATION IN A WIRELESS COMMUNICATION RECEIVER



(57) Abstract: A wireless communication receiver improves signal impairment correlation estimation in MIMO/MISO systems by considering different transmit power allocations and different transmit antenna power distributions in its impairment correlation calculations. The receiver may be implemented in according to a variety of architectures, including, but not limited to, Successive Interference Cancellation (SIC) Generalized RAKE (G-RAKE), Joint Detection (JD) G-RAKE, and Minimum Mean Squared Error (MMSE) G-RAKE. Regardless of the particular receiver architecture adopted, the improved impairment correlations may be used to calculate improved (RAKE) signal combining weights and/or improve channel quality estimates for reporting by receivers operating in Wideband CDMA (W-CDMA) systems transmitting HSDPA channels via MIMO or MISO transmitters. A transmitter may be configured to facilitate impairment correlation determinations by wireless communication receivers operating in MIMO/MISO environments, by signaling one or more values, e.g., data-to-pilot signal transmit power ratios and/or transmit antenna power distributions for the data and pilot signals.

WO 2006/132593 A3



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