

A SYSTEM AND METHOD FOR ESTIMATING PHASE OFFSET IN A COMMUNICATION SYSTEM

ABSTRACT

A system and method for estimating phase offset between a local oscillator and a transmitted input signal in a communication system comprises a differential detector and a phase compensation stage for compensating for phase errors in an output signal from the differential detector. The output signal from the differential detector is rotated in a decision-based rotation stage coupled to the outputs of the differential detector and the phase compensation stage. The rotation is based on a decision made using the output signal from the phase compensation stage. An accumulation stage accumulates the output signal from the decision-based rotation stage for a number of symbols in the transmitted input signal. A normalization stage normalizes the output signal from the accumulation stage and the normalized output signal corresponds to a phase offset of the local oscillator relative to the transmitted input signal. The phase compensation stage has a further input to which the phase offset is applied to compensate the phase of a subsequently received symbol in the transmitted input signal. The phase offset between the local oscillator and the transmitted input signal is then estimated.

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Figure for publication – Figure 4



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