Title (en)

METHOD AND SYSTEM FOR ESTIMATING FREQUENCY OFFSET AND PHASE ROTATION CORRECTION IN CDMA SYSTEMS

Title (de)

VERFAHREN UND SYSTEM ZUR SCHÄTZUNG EINER FREQUENZVERSCHIEBUNG UND KORREKTUR DER PHASENDREHUNG IN CDMA-SYSTEMEN

Title (fr)

PROCEDE ET SYSTEME D'EVALUATION DE LA CORRECTION DU DECALAGE DE FREQUENCE ET DE LA ROTATION DE PHASE DANS DES SYSTEMES CDMA

Publication

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Application

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Abstract (en)

[origin: WO0227956A2] Methods and apparatus which estimate frequency offset estimation and correction in manner which is suitable in environments which may involve high speeds are provided. The invention provides a frequency offset correction apparatus/method adapted to estimate a frequency offset correction from a despread finger output sequence. The apparatus has a correlation function adapted to perform a correlation between an input sequence which is a function of the despread finger output sequence and a delayed version of the input sequence over an update period to produce a correlation output. Also, the apparatus has an instantaneous frequency offset determining function adapted to determine an instantaneous frequency offset as a function of the correlation output. In most circumstances, the frequency offset correction will be estimated from a plurality of despread finger output sequences. In such a context, there is provided a plurality of correlation functions each adapted to perform a respective correlation on respective input signals each of which is a function of a respective one of the plurality of despread finger output sequences to produce a corresponding plurality of correlation outputs, the correlation being performed between the respective input signal and a delayed version of the respective input signal. A combiner combines the plurality of autocorrelation outputs to produce a combined correlation output, and an instantaneous frequency offset as a function of the combined correlation output. To eliminate short-term variability in the estimate, the apparatus may further include a low-pass filter adapted to perform low-pass filtering on the instantaneous frequency offset to product a filtered frequency offset.

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