

Title (en)

CHANNEL IMPULSE RESPONSE ESTIMATION USING SINGULAR VALUE DECOMPOSITION

Title (de)

SCHÄTZUNG DER KANLIMPULSANTWORT DURCH SINGULÄRWERT-ZERLEGUNG

Title (fr)

ESTIMATION DE LA REPONSE IMPULSIONNELLE D'UN CANAL AU MOYEN DE LA DECOMPOSITION D'UNE VALEUR SINGULIERE

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Application

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Abstract (en)

[origin: WO9838772A1] The present invention relates to the estimating of CIR (channel impulse response) and SINR (signal-to-interference-plus-noise ratio) in CDMA receivers. Particularly, the present invention is directed to a method of determining the channel impulse response (CIR) of a communication system, such as the CIR of radio channels of a digital mobile radio network (GSM network). In particular, the present invention relates to determining the CIR based on the reception of a known training sequence. The present invention also has application in interference cancellation and use in CDMA receivers. The present invention stems from the realisation that the problems associated with the prior art can be alleviated by initially transforming the matrix obtained by virtue of network analysis into a 'diagonal matrix' and then inverting the resultant diagonal matrix. A further invention is to multiply the reciprocal of the eigenvalue in the inverse by a decreasing number until the sidelobes are removed or so small that they have little effect.

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