Title (en)

METHOD AND APPARATUS FOR PERFORMING RATE DETERMINATION USING ORTHOGONAL RATE-DEPENDENT WALSH COVERING CODES

Title (de)

VERFAHREN UND VORRICHTUNG ZUR RATENBESTIMMUNG UNTER VERWENDUNG VON ORTHOGONALEN RATABHÄNGIGEN SPREIZENDEN WALSH-KODE

Title (fr)

PROCEDE ET APPAREIL PERMETTANT D'EFFECTUER LA DETERMINATION DU DEBIT A L'AIDE DE CODES ORTHOGONAUX COUVRANTS DE WALSH DEPENDANTS DU DEBIT

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Abstract (en)

[origin: WO9941847A1] A method and apparatus for rate determination in a communication system using orthogonal rate-dependent Walsh covering codes. Orthogonal rate-dependent Walsh codes are used to cover repeated code symbols prior to transmission over a communication link. The Walsh codes comprise orthogonal binary codes that increase by powers of two for each data rate in the system. Code symbols are repeated and then covered at the symbol rate using the inventive orthogonal Walsh codes. The symbol error rate (SER) blocks are used to generate rate-dependent SER metrics for each of the candidate rates. SER estimators (230, 232, 234, 236) associated with soft combiners (204, 206, 208, 210) using incorrect data rate hypotheses produce high symbol error rates with respect to the symbol error rate produced by the SER estimator (230, 232, 234, 236) associated with the soft combiner (204, 206, 208, 210) using the correct rate hypothesis. In another embodiment, energy metric calculators (250, 252, 254, 256) are substituted for SER estimators (230, 232, 234, 236) and used to generate rate-dependent re-encoded energy metrics for each candidate data rate. The energy metrics produce an estimate of the symbol energy, and the symbol energy is used as a data rate indicator.

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