

Title (en)

METHOD AND SYSTEM FOR MULTI-USER CHANNEL ESTIMATION IN DS-CDMA SYSTEMS

Title (de)

VERFAHREN UND SYSTEM ZUR MEHRNUTZER-KANALABSCHÄTZUNG IN DS-CDMA SYSTEMEN

Title (fr)

PROCEDE ET SYSTEME D'ESTIMATION POUR CANAL MULTI-UTILISATEUR DANS DES SYSTEMES DS-CDMA

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Application

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Abstract (en)

[origin: WO2005099130A1] The method and system for multi-user channel estimation in a multi-access network comprises: providing a communication signal (ri) providing an estimated communication signal Formula (I) generated using a spreading code signal (Ci), an information sequence signal (Bi) and a predicted composite channel impulse response signal Formula (II); comparing the communication signal (ri) to the estimated communication signal Formula (I) to provide an error signal (ei); and generating an estimated composite channel impulse response signal Formula (III) using the error signal (ei), the spreading code signal (Ci) and the information sequence signal (Bi); the predicted composite channel impulse response signal Formula (II) providing the multi-user channel estimation. The proposed method, which is based on a LMS like algorithm, is an efficient and low complexity method allowing estimating and tracking even fast times varying multi-path channels. Instantaneously, the composite channel impulse response is computed and estimates of all possible path energies are computed to be used as an indicator of the significant paths (delays).

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