Title (en)
METHOD FOR SELECTION OF AN OPTIMIZED NUMBER OF SUBSCRIBERS IN MOBILE RADIO SYSTEMS

Title (de)
VERFAHREN ZUR AUSWAHL EINER OPTIMIERTEN TEILNEHMERZAHL IN MOBILFUNKSYSTEMEN

Title (fr)
PROCEDE DE SELECTION D'UN NOMBRE OPTIMISE D'ABONNES DANS DES SYSTEMES DE TELEPHONIE MOBILE

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Application
EP 06793763 A 20060922

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Abstract (en)
[origin: WO2007033997A1] This invention comprises a method of little complexity for selection of an optimized number of subscribers for transmission in wire-free message transmission systems having a plurality of antennas at the base station and having one or more antennas at the receivers, as well as space-division multiple access (SDMA) in conjunction with multiple access in the time domain or frequency domain. Subscribers with channels with little spatial correlation are selected for operation in the same time slot or frequency slot, in order to increase the throughput of the SDMA transmission method, with the relationship between the group size and the mean transmission power being taken into account. The invention interacts both with SDMA methods which do not allow any interference (Zero Forcing) and with methods with residual interference. It is based on a novel interpretation of the ZF principle with the aid of orthogonal projection matrices, which allow the channel quality to be estimated with much less computation complexity, based on use of the transmission method. The possible subscriber combinations are sorted efficiently with the aid of a tree-like search algorithm. The method makes use of perfect channel knowledge or alternatively averaged channel statistics. Quality of service requirements for the subscriber as well as fairness criteria can be taken into account.

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