KOLLOQUIUM

Elektrotechnik-Elektronik-Informationstechnik

MIMO Systems:Myth and Realities

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Donnerstag, der 30.04.2009, 17^{15} Uhr
Cauerstraße 7/9, Hörsaal H5
Diskussionsleitung: Prof. Dr.-Ing. J. Huber

A case for an alternative design of wireless multiple-input multiple output (MIMO) communication systems is made. A couple of widespread beliefs about MIMO systems, like antenna spacing, code design, and modulation formats, are identified as incorrect generalisations valid only in certain single-user or single-antenna communication systems. These “myths” are found to grow out of the even deeper-rooted misbelief that orthogonality between signals is something unequivocally beneficial. An alternative system design not restricted by those “myths” is advocated. One of its main features is asynchronous transmission with single-carrier binary continuous phase modulation via closely spaced antenna elements.