

Elektrotechnik-Elektronik-Informationstechnik

EEI KOLLOQUIUM

Probabilistic Shaping for BICM

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Diskussionsleitung: Prof. Dr.-Ing. J. Huber

Bit-interleaved coded modulation (BICM) is a practical approach for reliable communication over the AWGN channel in the bandwidth - limited regime. In this talk, it is shown how the performance of existing BICM schemes that use systematic error correcting codes can be improved by probabilistic shaping. The key idea is to first pass the data bits through a matcher, which reversibly transforms the data bits into a sequence of bits that have a probability distribution resembling the capacity-achieving one. Benefits and drawbacks of this approach are addressed.