



KOLLOQUIUM

Institut für Elektrotechnik, Elektronik und Informationstechnik

The Genesis of Coding Theory

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

In this paper we give an historical overview of the theory of channel coding dating back to the work of Shannon in 1948. The important advances in channel coding in each 10 year period since 1948 are viewed from a common perspective: the power and bandwidth efficiencies needed to achieve certain levels of error performance. The most important contributions of the last half century are highlighted, including Hamming codes, Reed-Solomon codes, convolutional codes, soft decision decoding, trellis coded modulation, concatenated codes, and iterative decoding.

Finally, areas of potential future research in channel coding are briefly discussed.