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Research Letter

Training Sequence Length Optimization for a Turbo-Detector Using Decision-Directed Channel Estimation

Imed Hadj Kacem,^{1,2} Noura Sellami,¹ Inbar Fijalkow,² and Aline Roumy³

¹Laboratoire d' Electronique et des Technologies de l' Information (LETI), ENIS, Route Sokra km 3.5, Sfax 3038, Tunisia

²ETIS, UMR 8051, CNRS, ENSEA, University Cergy-Pontoise, F-95000 Cergy, France

³Institut National de Recherche en Informatique et Automatique (INRIA), Campus de Beaulieu, 35042 Rennes Cedex, France

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Abstract

We consider the problem of optimization of the training sequence length when a turbo-detector composed of a maximum *a posteriori* (MAP) equalizer and a MAP decoder is used. At each iteration of the receiver, the channel is estimated using the hard decisions on the transmitted symbols at the output of the decoder. The optimal length of the training sequence is found by maximizing an effective signal-to-noise ratio (SNR) taking into account the data throughput loss due to the use of pilot symbols.

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