

Séminaire ICI : Michael Lentmaier

11 Septembre 2014, 14:00 – 15:30

Titre du séminaire et orateur

Braided Convolutional Codes – A Class of Spatially Coupled Turbo-Like Codes.
Michael Lentmaier, Lund University.

Date et lieu

Jeudi 11 septembre à 14h00.
ENSEA Cergy-Pontoise, salle 384.

Abstract

We investigate the impact of spatial coupling on the thresholds of turbo-like codes. Parallel concatenated and serially concatenated convolutional codes as well as braided convolutional codes (BCCs) are compared by means of an exact density evolution (DE) analysis for the binary erasure channel (BEC). We propose two extensions of the original BCC ensemble to improve its threshold and demonstrate that their BP thresholds approach the maximum-a-posteriori (MAP) threshold of the uncoupled ensemble. A comparison of the different ensembles shows that parallel concatenated ensembles can be outperformed by both serially concatenated and BCC ensembles, although they have the best BP thresholds in the uncoupled case.