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Lara Dolecek*, Engineering IV, 56-147B, EE Department, UCLA, Los Angeles, CA 90095.

Flexible coding schemes with applications to emerging memory technologies.

In this talk we will discuss a novel class of non-binary coding schemes for a channel model arising in emerging memory technologies. We will discuss theoretical properties of these codes, including symmetric and asymmetric error detection and correction properties, and their simplified encoders and decoders. We will also discuss how such codes can help address the spatio-temporal variability of practical multilevel Flash memories, and ways in which proposed constructions outperform existing coding solutions. (Received September 20, 2011)