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Seminar
Systems and Control Group - CIDMA

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The problem of constructing complete MDP convolutional codes over small fields

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Abstract

It has been shown that, transmitting over an erasure channel, maximum distance profile (MDP) convolutional codes have optimal recovery rate for windows of a certain length. Additionally, the subclass of complete MDP convolutional codes has the ability to reduce the waiting time during decoding. The existence of (complete) MDP convolutional codes for arbitrary parameters has been shown for sufficiently large field sizes. Moreover, there exist basically two general construction techniques for these codes. However, these constructions require very large field sizes. In this talk, I will show that it turns out to be hard to find constructions over small fields even for quite small parameters. Finally, some very particular construction examples for moderate field sizes should be presented.

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