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У НОВОМ САДУ



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СЕРТИФИКОВАН ОД:



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**Obaveštenje / Announcement**

## P R E D A V A N J E / L E C T U R E

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## ITERATIVE DECODING BEYOND BELIEF PROPAGATION

*Abstract:* We introduce a generic approach for improving the guaranteed error correction capability of regular low-density parity check codes. The method relies on operating (in serial or in parallel) a set finite-alphabet iterative decoders. The message-passing update rules are judiciously chosen to ensure that decoders have different dynamics on a specific finite-length code. The idea is that – for the binary symmetric channel – if some error pattern cannot be corrected by one particular decoder, there exists in the set of decoders, another decoder which can correct this pattern. We show how to select plurality of message update rules so that the set of decoders can collectively correct errors patterns on the dominant trapping sets, and approaches performance of maximum likelihood decoding for finite-length regular, column-weight three codes.

**Utorak, 19. 06. 2012. godine, u Zbornici Fakulteta tehničkih nauka u Novom Sadu (F-124), sa početkom u 11 časova.**

**Tuesday, June 19, 2012, in the Assembly Hall of the Faculty of Technical Sciences Novi Sad (F-124), at 11 am.**



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