

# LDPC codes from cubic semisymmetric graphs\*

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## Abstract

In this paper we study LDPC codes having cubic semisymmetric graphs as their Tanner graphs. We discuss the structure of the smallest absorbing sets of these LDPC codes. Further, we give the expression for the variance of the syndrome weight of the constructed codes, and present computational and simulation results.

*Keywords:* LDPC code, cubic graph, semisymmetric graph.

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# LDPC kode, dobljene iz kubičnih semisimetričnih grafov\*

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## Povzetek

V tem članku obravnavamo LDPC kode, katerih Tannerjevi grafi so kubični semisimetrični grafi. Raziščemo strukturo najmanjših absorbirajočih množic teh LDPC kod. Podamo tudi izraz za varianco sindromske teže konstruiranih kod, ter predstavimo računske in simulacijske rezultate.

*Ključne besede: LDPC koda, kubičen graf, semisimetričen graf.*

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