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Tsvetan I Asamov* (asamovt@kenyon.edu) and **Nuh Aydin** (aydinn@kenyon.edu). *LDPC Codes of Arbitrary Girth.*

In this talk we present a graph theoretical method, called successive level growth (SLG), for the construction of LDPC codes with arbitrarily specified girth. In addition, two other ideas - graph cropping and edge splitting are introduced as well. The simulation results show that our codes exhibit significant coding gain over randomly constructed LDPC codes in the additive white Gaussian noise channel. (Received August 28, 2006)