Computer Science > Information Theory

Analytical Solution of Covariance Evolution for Irregular LDPC Codes

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A scaling law developed by Amraoui et al. is a powerful technique to estimate the block error probability of finite length low-density paritycheck (LDPC) codes. Solving a system of differential equations called covariance evolution is a method to obtain the scaling parameter. However, the covariance evolution has not been analytically solved. In this paper, we present the analytical solution of the covariance evolution for irregular LDPC code ensembles.

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