

137. ENERGY EFFICIENCY ANALYSIS OF TURBO CODE BASED COOPERATIVE MISO TECHNIQUE FOR WIRELESS SENSOR NETWORKS

Ms. S.Nithiya¹, Mr. K.Senthil Kumar², Dr. R.Amutha³

¹M.E., Communication Systems, ²Associate Professor, ³Professor

^{1,2}Rajalakshmi Engineering College, ³SSN College of Engineering

nithiya.s.2013.mecs@rajalakshmi.edu.in, senthilkumar.kumaraswamy@rajalakshmi.edu.in, amuthar@ssn.edu.in

Cooperative communication in wireless sensor networks (WSNs) minimizes the energy consumption, which in turn extend the lifetime of each node in the network. In this paper, an energy model for single input single output (SISO), uncoded cooperative- multiple input single output (C-MISO) and turbo coded C-MISO systems using M-QAM modulation is derived. The energy consumption of coded C-MISO is compared with uncoded C-MISO and traditional SISO communication. And also the effect of distance and code rate on energy consumption is analyzed. Results show that turbo coded C- MISO is more energy efficient.

Keywords— cooperative communication, wireless sensor network, turbo code, V-MISO, M-QAM, energy efficiency

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