ITERATIVE SOURCE CODED MODULATION: EXIT CHARTS, COMPLEXITY COMPARISONS AND NEW INDEX ASSIGNMENTS (WedPmPO1)

Author(s) : Thorsten Clevorn (RWTH Aachen University, Germany)
            Peter Vary (RWTH Aachen University, Germany)

Abstract : Iterative source coded modulation (ISCM) improves the error concealment for source codec parameters without increasing the transmitted bit rate by combining iterative demodulation of higher order modulations and the usage of residual source redundancy in a Turbo process. In this paper we present the enhanced capabilities of ISCM when novel index assignments are applied. A doubling of the previously achievable logarithmic gains is possible. Furthermore, the convergence properties of ISCM are analyzed by EXIT charts and the computational complexity is compared to a rate–1 iterative source–channel decoding (ISCD) system. ISCM exhibits a competitive performance in relation to an equally complex ISCD system.