



Hybrid Maximum Likelihood Modulation Classification Using Multiple Radios

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The performance of a modulation classifier is highly sensitive to channel signal-to-noise ratio (SNR). In this paper, we focus on amplitude-phase modulations and propose a modulation classification framework based on centralized data fusion using multiple radios and the hybrid maximum likelihood (ML) approach. In order to alleviate the computational complexity associated with ML estimation, we adopt the Expectation Maximization (EM) algorithm. Due to SNR diversity, the proposed multi-radio framework provides robustness to channel SNR. Numerical results show the superiority of the proposed approach with respect to single radio approaches as well as to modulation classifiers using moments based estimators.

Subjects: **Information Theory (cs.IT)**; Machine Learning (stat.ML)

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