
A Convex Approach to Near-Optimal Beamforming Designs for Two-User MISO Fading Interference Channels

Abstract:

Based on a convex approach with side-information, we propose transmit beamforming designs for two-user multiple-input single-output fading interference channels. Main contribution of this paper is to provide a novel methodology for solving a non-convex optimization problem efficiently based on the effective side-information. Consequently, the proposed scheme exhibits near-optimal average sum-rate performance under single user detection with Gaussian inputs, which is validated through numerical results. As a by-product, we show that the proposed scheme requires almost no parameter optimization on the average over multiple coding blocks.

