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**A stochastic mirror-descent algorithm for solving** $AXB = C$ **over an multi-agent system.**

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Summary: In this paper, we consider a distributed stochastic computation of $AXB = C$ with local set constraints over an multi-agent system, where each agent over the network only knows a few rows or columns of matrices. Through formulating an equivalent distributed optimization problem for seeking least-squares solutions of $AXB = C$, we propose a distributed stochastic mirror-descent algorithm for solving the equivalent distributed problem. Then, we provide the sublinear convergence of the proposed algorithm. Moreover, a numerical example is also given to illustrate the effectiveness of the proposed algorithm.

**MSC:**

- 68M15 Reliability, testing and fault tolerance of networks and computer systems
- 93A14 Decentralized systems

**Keywords:**

distributed computation of matrix equation; multi-agent system; sublinear convergence; stochastic mirror descent algorithm

**Full Text:** DOI