1163-68-369   **Austin R Benson*** (`arb@cs.cornell.edu`), **Jon Kleinberg** and **Nate Veldt**. *Hypergraph Cuts with General Splitting Functions.*

The minimum s-t graph cut is a fundamental combinatorial optimization problem, and graph cuts underlie algorithms throughout applied mathematics. While graphs are a standard model for pairwise relationships, hypergraphs provide the flexibility to model multi-way relationships, and are now a standard model for complex data and systems. However, when generalizing from graphs to hypergraphs, the notion of a "cut hyperedge" is less clear, as a hyperedge's nodes can be split in several ways. Here, we develop a framework for s-t hypergraph cuts by considering various models for penalties at cut hyperedges and use this to develop new local hypergraph clustering algorithms for mining data from product reviews and online question-and-answer platforms. (Received September 04, 2020)