Partition contrained edge-connectivity augmention of a hypergraph

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Abstract

In this talk we consider a common generalization of the problem of partition constrained edge-connectivity augmentation of graphs solved by Bang-Jensen, Gabow, Jordán, Szigeti and that of edge-connectivity augmentation of hypergraphs by adding graph edges solved by Bang-Jensen, Jackson, namely given a hypergraph, a partition of its vertex set and an integer k, find a minimum number of graph edges to be added between different members of the partition in order to make the hypergraph k-edge-connected. We will present a min-max theorem for this problem that implies the corresponding results on the above mentioned problems. *(joint work with Attila Bernáth and Roland Grappe)*