

Title: Contractible configurations for flows

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Abstract: Let \mathcal{P} be a graph theory property. A graph H is a *contractible configuration of \mathcal{P}* if, for each supergraph G of H , the contracted graph G/H has the property \mathcal{P} if and only if G does.

In this talk, we will survey some results about contractible configurations for graph flows. Such as,

(i) group connectivity (introduced by Jaeger-Linial-Payan-Tarsi) for all integer valued flows;

(ii) contractible configurations for 3-flows: triangularly connected graphs (Fan-Lai-Xu-Z-Zhao), 6-edge-connected graphs (Lovász-Thomassen-Wu-Z), etc.;

(iii) contractible configurations for 4-flows: collapsible graphs (Catlin-Lai) which includes graphs containing two edge-disjoint spanning trees, etc.;

(iv) contractible configurations for circular $(2 + 1/t)$ -flows: $6t$ -edge-connected graphs (Lovász-Thomassen-Wu-Z), etc.