

Recent Developments in Robust Network Flows

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Date: 24 January 2018

Time: 4:15 pm

Place: Otto-Hahn-Straße 16
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Room: 205

Abstract:

Our society increasingly depends on the constant availability of network services in areas such as communication, energy, or transportation. Robust network flows are a concept for making these services more reliable by anticipating link failures, external interferences, or even targeted attacks. In these models, our goal is to find a flow maximizing the amount of surviving flow after a worst-case failure of links in the network. We will review some recent developments, describe various robust flow models tailored towards different applications, and discuss algorithm and complexity results.