

Snapshot Disjoint Paths in Temporal Graphs

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A temporal graph with lifetime τ is a pair (G, L) where L is a label function on the edges of G that tells us in which timesteps in $[\tau]$ each edge is going to be active. It can model for instance the moments at which direct communication between nodes of a network was established throughout a time window. Many other practical situations can be modeled in a temporal graph, from proximity networks, to public transportation and bitcoin transactions. In this talk, we will introduce a new kind of robustness on these graphs and present computational complexity results of related problems. We will also talk about concepts and problems related to edge connectivity in these graphs, which is a nice complement to the mini-course “Paths and Connectivity on Temporal Graphs”, where we focus on vertex connectivity.

This is a joint work with Allen Ibiapina.