



北京理工大学

数学与统计学院学术报告

Invariants of real networks in different fields

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摘要: One of the surprising things from network science is that real networks, or networks built from real data, have some general properties that are independent of the domain from which the data was obtained. These properties or invariants can be classified in two main directions: from a structural point of view and from a dynamic one. Structural invariants are based on specific functions acting at the nodes of networks, which are called centrality. Dynamic invariants are persistent homology constructed from simplicial complexes based on the space of data points. It turns out that there is an intersection between these two different approaches, and this is the famous Laplacian matrix. In this talk I will discuss these two approaches, explain why this is so, and discuss the new invariants obtained using this matrix.

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