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47408. Discovering and Comparing Clusters in Networks.

Network, or graph, is a unifying framework to study many complex systems in nature. Theories and techniques developed for a network can be readily applied to other systems; Networks from completely different systems often share similar characteristics that allow transfer of insights from one system to another. One of such common characteristics is clustering. Networks tend to exhibit dense subgraphs that correspond to important structural and functional units. Thus, discovering and understanding such clusters is a crucial step in network analysis. In this talk, I will first discuss distinguishing aspects of network clustering and introduce a method for discovering strongly overlapping clusters in networks. I will then explain general issues in comparing clusterings and introduce a new method to compare clusterings and reveal insights into clusterings. (Received February 07, 2017)