The analysis of the WoS data on clustering networks

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Abstract

There is a large literature on clustering networks. We collected bibliographic data for the network clustering literature including both community detection and blockmodeling works through to February 22, 2017. The primary data source was the Web of Science. From the obtained data we created a citation network among works. In addition, we included data on authors, journals and keywords to generate some two-mode networks featuring works $\times$ authors, works $\times$ journals, and works $\times$ keywords. The boundary problem is discussed as was a treatment ensuring the studied citation network is acyclic. Lists of the most prominent journals where works in the network clustering literature appeared were created. Components of the studied network were identified and examined. The CPM path through the main component was identified. It revealed a clear transition from the social network part of the literature to the community detection part. The key-route paths revealed the same transition but with more works and a more nuanced view of it. Ten link islands, as clusters, were identified. Detailed discussions were provided for four including one with a clear distinction between the community detection and social networks literatures as being connected through a cut.