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Dynamic blockmodel of Slovene co-authorship networks (1991-2020)

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Recently, the research on blockmodeling has seen the development on a sprawling literature on networks representing relations between units in two or more time periods (so-called dynamic or temporal networks). Crucially, the literature offers several techniques to blockmodel such networks which vary in important ways (e.g., the definition of the network, modeling of temporal dependency). In this presentation we will present a dynamic blockmodeling analysis dynamic co-authorship network of social scientists in Slovenia based on data from the COBISS database. After providing a brief summary of the data-selection and preparation processes, the focus will be directed on the presentation and comparison of blockmodels obtained using different methods. Amongst the several methods offered in the literature, the stochastic blockmodeling (SBM) for generalised multipartite networks (also known as MBM; Bar-Hen, Barbillon, and Donnet 2022), the SBM for linked networks (Škulj and Žiberna 2022) and that for multilevel networks (Chabert-Liddell et al. 2021), as well Dynamic SBM (Matias and Miele 2017). Mostly, the presentation will focus on the partition produced by the MBM and the SBM for multilevel networks. This choice takes stake of the results of previous simulation studies (Cugmas and Žiberna 2023 [pre-print]), the specific properties of the co-authorship networks under scrutiny and preliminary results. Overall, these approaches seem the most empirically sounds as well as the most noteworthy from a methodological standpoint.

Keywords

blockmodeling, co-authotship network, dynamic networks, linked networks

Topics

• Clustering on networks: community detection and blockmodeling

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