UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

EXPLORING SCIENTIFIC COLLABORATION OF COMMUTING GRAPH IN CO-OCCURRENCE NETWORK USING CENTRALITY ANALYSIS

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ABSTRACT

The study focuses on analyzing the co-occurrence network of author's keywords in articles related to the commuting graph of a finite group. Network is created using VOSviewer and the keywords co-occurrence is measured. To quantify the significance of each keyword within the network, centrality analysis is performed based on four main components which are degree centrality, betweenness centrality, closeness centrality and eigenvector centrality. Centrality measures capture different aspects of a node's influence within a network. A node's influence inside a network can be captured in several ways by using centrality measure. This ranking helps identify the most prominent and influential keywords in the scientific collaboration related to the commuting graph of a finite group. The analysis of the ranked results provides insights into the scientific collaboration surrounding the commuting graph. It allows the researchers to understand which keywords are highly central and influential in the network, thereby highlighting the key areas of focus and potential research directions. By examining the relationships between the keywords and their co-occurrence patterns, the authors can gain a deeper understanding of the collaborative dynamics within this specific network.