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COMPARABLE GRAPHS OF SUBMODULES

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ABSTRACT

Let R be an associative ring with identity and M be a right R -module. We define the comparable graph $c(M)$ of M with all non-trivial submodules of M as vertices and two distinct vertices A, B are adjacent if and only if $A < B$ or $B < A$. In this paper, we investigate the connectivity, completeness, girth, domination number, cut edges and bipartite of $c(M)$. Moreover, we give connections between the graph-theoretic properties of $c(M)$ and algebraic properties of M .

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