ON THE COMPUTATIONS OF SOME HOMOLOGICAL FUNCTORS OF 2-ENGEL GROUPS OF ORDER AT MOST 16
(Pengiraan Beberapa Fungtor Homologi bagi Kumpulan Engel-2 Berperingkat Tidak Melebihi 16)

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ABSTRACT
The homological functors including $\text{J}(G)$, $\nabla(G)$, exterior square, the Schur multiplier, $\Delta(G)$, the symmetric square and $\bar{J}(G)$ of a group were originated in homotopy theory. The nonabelian tensor square which is a special case of the nonabelian tensor product is vital in the computations of the homological functors of a group. It was introduced by Brown and Loday in 1987. The nonabelian tensor square $G \odot h$ of a group $G$ is generated by the symbols $g \odot h$, for all $g, h \in G$ subject to the relations $gg' \odot h = (g'g \odot h)(g \odot h)$ and $g \odot hh' = (g \odot h)(g' \odot h')$, for all $g, g', h, h' \in G$ where $g' = gg^{-1}$. In this paper, the computations of nonabelian tensor squares and some homological functors of all 2-Engel groups of order at most 16 are done. Groups, Algorithms and Programming (GAP) software has been used to assist and verify the results.

Keywords: Nonabelian tensor square; homological functors; 2-Engel groups; GAP

REFERENCES

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