Non-abelian tensor square and related constructions of finite p-groups

Carmine Monetta*
Department of Mathematics
University of Salerno
Fisciano, Italy

Abstract

The non-abelian tensor square of a group, as defined in [2, 3], plays an important role both in group theory and in geometry. In [4], Rocco presented a new tool to deal with the non-abelian tensor square of a group G. Indeed, he considered a new group $\nu(G)$, whose derived subgroup contains a copy of $G \otimes G$. Therefore, in the context of $\nu(G)$ all the commutator calculus can be used.

In this talk we will describe new results obtained jointly with R. Bastos, E. de Melo and N. Gonçalves [1], concerning the problem to determine bounds for the exponent of $\nu(G)$ and $G \otimes G$ when G is a finite p-group. More specifically, we came out with new upper bounds for $\exp(\nu(G))$ and $\exp(G \otimes G)$, depending on $\exp(G)$ and either the nilpotency class or the coclass of G.

References

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