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Isotype subgroups of mixed groups

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Abstract: In this paper, we initiate the study of various classes of isotype subgroups of global mixed groups. Our goal is to advance the theory of Σ -isotype subgroups to a level comparable to its status in the simpler contexts of torsion-free and p -local mixed groups. Given the history of those theories, one anticipates that definitive results are to be found only when attention is restricted to global k -groups, the prototype being global groups with decomposition bases. A large portion of this paper is devoted to showing that primitive elements proliferate in Σ -isotype subgroups of such groups. This allows us to establish the fundamental fact that finite rank Σ -isotype subgroups of k -groups are themselves k -groups.

Keywords: global k -group, Σ -isotype subgroup, $*$ -isotype subgroup, knice subgroup, primitive element, $*$ -valuated coproduct

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