



Seminario Matematico di Brescia

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Group orthomorphisms through quotients and normal groups: applications to R-sequences and row sum matrices

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https://meet.google.com/tii-pabh-cpw

Abstract: An orthomorphism of a group G is a permutation f such that $g(x) = x^{-1}f(x)$ is also a permutation of G. The existence of an orthomorphism is equivalent to the existence of a complete mapping. Their existence has been widely studied, also in view of their applications to several combinatorial problems such as orthogonal latin squares, R-sequences, and row sum matrices, among others.

In this talk, we use a technique to obtain an orthomorphism of Gfrom several orthomorphisms of a normal subgroup N and an orthomorphism of the quotient group G/N, which allows us to maintain some of the properties of the original orthomorphisms. We then use this technique to obtain R-sequences and row sum matrices for non-abelian groups.

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