

SEMINÁRIO DE ÁLGEBRA

**AMALGAMATED DECOMPOSITIONS OF  
HIGHER MODULAR GROUPS AND THEIR  
ELEMENTARY PART**

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14:30 Horas

Zoom

**Abstract.**

Vahlen groups are  $2 \times 2$ -matrices with entries in a Clifford algebra and they act via generalized Möbius transformations on higher dimensional hyperbolic spaces. As such discrete subgroups of these provide a natural generalization of the modular group to higher dimensions. In this talk we will start by recalling the aforementioned groups and introduce their elementary subgroup (which can be thought of an algebraic counterpart). Thereafter we will present an algorithm, à la Cohn, to obtain a presentation and explicit amalgamated decompositions. In the last part we will briefly move towards the study of integral group rings of finite groups and how the obtained decomposition can be of use there. This talk is based on joint work with Andreas Bächle, Eric Jespers, Ann Kiefer and Doryan Temmerman (arXiv:1811.12226).