

SEMINÁRIO DE ÁLGEBRA

Profinite Genus of Fundamental Groups of Sol 3-manifolds

Genildo de Jesus Nery
UnB

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Abstract. Let \mathcal{C} be a family of groups and $G \in \mathcal{C}$. The \mathcal{C} -genus is the set of isomorphism classes of groups belonging to \mathcal{C} which has the same profinite completion as the fixed group G . Suppose that \mathcal{C} is the family of the polycyclic groups. Our goal is to calculate the \mathcal{C} -genus of the polycyclic group $(\mathbb{Z} \times \mathbb{Z}) \rtimes_A \mathbb{Z}$ where $A \in GL_2(\mathbb{Z})$, which is the fundamental group of a Sol 3-manifold. Moreover, we show that there is a subclass of Sol 3-manifolds that are distinguished by the profinite completions of their fundamental groups.