Virtual Endomorphisms of Groups

Palestrante: Prof. Dr. Said N. Sidki, UNB

Data: 15 e 22 de setembro de 2016 (quinta-feira)
Horário: 14:00
Sala: IM 323

A virtual endomorphism of group G is a homomorphism $f : H \to G$ where H is a subgroup of G of finite index m.

A recursive construction using f produces a so called state-closed (or, self-similar in dynamical terms) representation of G on a 1-rooted regular m-ary tree. The kernel of this representation is the f-core (H); i.e., the maximal subgroup K of H which is

(i) normal in G and (ii) f-invariant, in the sense that $K^f \leq K$.

Examples of state-closed groups are the Grigorchuk 2-group and the Gupta-Sidki p-groups in their natural representations on rooted trees.

The affine group $\mathbb{Z}^n GL(n, \mathbb{Z})$ as well as the free gorup F_3 in three generators admit state-closed representations.

Yet another example is the free nilpotent group $G = F(c; d)$ of class c.

We will discuss state-closed representation of

(1) general abelian groups, (2) finitely generated nilpotent groups, (3) wreath product of abelian groups.

UNIVERSIDADE DE BRASILIA
E-mail address: ssidki@gmail.com