

# V WORKSHOP DE ÁLGEBRA DA UFG-CAC

## Relações entre grupos virtualmente livres e representações inteiras $p$ -ádicas de grupos cíclicos.

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### Resumo

We prove a pro- $p$  version of the classical decomposition of a  $\mathbb{Z}_p$ -torsion free  $\mathbb{Z}_p C_p$ -module into indecomposable modules. We also describe some pro- $p$   $\mathbb{Z}_p C_{p^n}$ -modules obtained from a semidirect product of a free pro- $p$  group  $F$  and a cyclic group  $C_{p^n}$  of automorphisms by factoring out the (closed) commutator subgroup  $[F, F]$ .

**Keywords:** Pro- $p$  modules. Virtually free pro- $p$  groups. Indecomposable module.

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