

# 24<sup>o</sup> Colóquio Brasileiro de Matemática

## Sessão de Álgebra

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### **A generalization of Tits' Criterion: Applications**

**Resumo:** J. Tits establishes a criterion for the powers of  $n$ -tuples of semi-simple matrices, with entries in a locally compact field with a nontrivial valuation, to generate a free product. We discuss this result, showing that its scope can be enlarged to cases not originally contemplated: we apply it to pairs of transvections, a transvection and a semisimple element, a finite group and a transvection and so on. Besides all the motivation comes from projective geometry, our approach is projective free.