

Symmetry Questions about Amenability and simplicity of Bases

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Abstract

The study of notions of amenability, congeniality and simplicity of bases for infinite dimensional algebras is furthered. A basis \mathcal{B} over an infinite dimensional F -algebra \mathcal{A} is called amenable if $F^{\mathcal{B}}$, the direct product indexed by \mathcal{B} of copies of the field F , can be made into an \mathcal{A} -module in a natural way. An amenable basis \mathcal{B} is called simple if it is not properly congenial to any other amenable basis. Graph magma algebras are a suitable non-commutative setting for these considerations. In this talk, we focus on characterizing left and right amenability and simplicity of the so-called bases of vertices (or permissible bases) of such algebras. It is shown, among other results, that finite support magma algebras have no simple left or right bases.