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Mahmood Sohrabi

Stevens Institute of Technology

First-order Rigidity of Finitely Generated Rings.

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Abstract:

A finitely generated ring is said to be First-order rigid if it can be axiomatized among finitely generated rings by a set of first-order sentences of the language of rings. Such a ring is said to be quasi-finite axiomatizable if a single sentence axiomatizes it among finitely generated rings. In recent years there have been many interesting developments in this area. In this talk, I will discuss some of these recent developments. In particular, I'll talk about my joint results with Alexei Myasnikov on first-order rigidity and quasi-finite axiomatizability of finitely generated commutative rings (even without unity) and arbitrary rings (non-commutative, non-associative and without unity) whose additive groups are finitely generated. I'll discuss some related open problems and applications to model theory of groups.