Mathematics, Statistics, and Computer Science **@ UIC**

Logic Seminar

Computability of the countable saturated differentially closed field.

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Abstract: It's been known since work of Harrington in the early 1970s that computable differential fields have computable differential closures. Recently Calvert, Frolov, Harizanov, Knight, McCoy, Soskova, and Vatev showed that the countable saturated differentially closed field is computable. Their proof involves first creating an effective listing of all types and then using a result of Morley's on existence of computable saturated models. I will give a significant simplification of the enumeration result and, for completeness, sketch Morley's priority construction of a saturated model. Pillay has also given an alternative enumeration argument though ours seems more robust and generalizes to quantifier free types in ACFA.

Tuesday, January 28 at 3:00 PM in 427 SEO