

UIC Model Theory Seminar, February 14, 2006

Uncountable models still count

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I will discuss approaches to Vaught's Conjecture by counting the number of models with cardinality \aleph_1 . The main actual result will be a theorem of Gao: An infinite structure M is totally categorical if and only if the automorphism group of M admits a complete left-invariant metric. We will observe that that fact prevents naive attempts to construct sentences of $\mathcal{L}_{\omega_1, \omega}$ with a prescribed number of models of cardinality \aleph_1 .