Quasi-finite model theory

Jouko Väänänen
Department of Mathematics
University of Helsinki
Helsinki, Finland
jouko.vaananen@helsinki.fi

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Abstract

First order model theory on infinite structures is a well-developed field of abstract mathematics with a wealth of powerful methods and sweeping results. In contrast, on finite structures we have very few general methods and equally few general results. In this paper we try to bridge this gap. We enrich finite model theory by adding certain infinite limits of finite structures. In this way we can develop *quasi-finite* model theory using some of the powerful methods of model theory on infinite structures without losing the finite model property (every sentence with a model has a finite model).