

On Relative Extreme Amenability

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Received November 9 2013

ABSTRACT. The purpose of this paper is to study the notion of *relative extreme amenability* for pairs of topological groups. We give a characterization by a fixed point property on universal spaces. In addition we introduce the concepts of an *extremely amenable interpolant* as well as *maximally relatively extremely amenable* pairs and give examples. It is shown that relative extreme amenability does not imply the existence of an extremely amenable interpolant. The theory is applied to generalize results of Kechris-Pestov-Todorcevic relating to the application of Fraïssé theory to theory of Dynamical Systems.

In particular, new conditions enabling to characterize universal minimal spaces of automorphism groups of Fraïssé structures are given.