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Sylvia Carlisle* (carlisle@rose-hulman.edu). *Non-Categoricity of Richly Branching Real-Trees*. Preliminary report.

An \mathbb{R} -tree is a metric space such that between any two points there is a unique geodesic segment. An \mathbb{R} -tree is richly branching if the set of points with at least 3 branches of a non-trivial length is dense. We consider bounded \mathbb{R} -trees as metric structures in an appropriate continuous signature. The theory rbRT of richly branching \mathbb{R} -trees is the model companion of the theory of \mathbb{R} -trees. It is complete, has quantifier elimination, and is stable but not superstable. Here, we show that the theory rbRT of bounded, richly branching \mathbb{R} -trees has the maximum possible number of non-isomorphic (and non-homeomorphic) models, namely, 2^κ models for any infinite cardinal κ . (Received February 07, 2017)