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A trichotomy for the ergodic theory of ultrametric rational maps

We show that the dynamics of an ultrametric rational map endowed with its equidistribution measure is either expanding, divisorial, or wild. In the expanding case, the equilibrium measure is supported on the set of classical points and it is the unique measure of maximal entropy. In the wild case, the equilibrium measure charges the open set of wild critical points. Finally, the most interesting case is when almost every point in the Julia set is contained on a level set of a divisorial function. The main ingredient in the proof is an ultrametric analog of the Hubbard-Lyubich conjecture on biaccessible points of (complex) polynomial Julia sets, shown independently by Smirnov and Zdunik. This rigidity statement is based on a model dynamics, inspired by the piecewise linear models of interval maps developed by Parry and by Milnor and Thurston. This is a joint work with Charles Favre.