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Non-Archimedean Hyperbolicity and Applications.

The conjectures of Green—Griffths—Lang predict the precise interplay between different notions of hyperbolicity: Brody hyperbolic, arithmetically hyperbolic, Kobayashi hyperbolic, algebraically hyperbolic, groupless, and more. In his thesis (1993), W. Cherry defined a notion of non-Archimedean hyperbolicity; however, his definition does not seem to be the "correct' version, as it does not mirror complex hyperbolicity. In recent work, A. Javanpeykar and A. Vezzani introduced a new non-Archimedean notion of hyperbolicity, which ameliorates this issue, and also stated a non-Archimedean variant of the Green—Griffths—Lang conjecture. In this talk, I will discuss complex and non-Archimedean notions of hyperbolicity as well as some recent progress on the non-Archimedean Green—Griffths—Lang conjecture. This is joint work with Ariyan Javanpeykar (Mainz) and Alberto Vezzani (Paris 13). (Received January 23, 2019)