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Yamabe Flow on Asymptotically Hyperbolic Manifolds

We study the Yamabe flow on conformally compact asymptotically hyperbolic manifolds, establishing short-time existence and uniqueness, and investigating the preservation of the asymptotically hyperbolic structure, including the polyhomogeneous regularity of the flow at conformal infinity. Under suitable assumptions on the conformal class, we establish long-time existence and convergence to a metric of constant negative scalar curvature. Our approach combines geometric maximum principles with parabolic analysis in weighted Hölder spaces. This is joint work with Eric Bahuaud and Eric Woolgar.