

Boundary regularity of Bach flat metrics

Bach flat metrics are critical points of the L^2 functional of the Weyl curvatures on manifolds. In recent years, there has been some intense effort to study regularity properties of such metrics. In this talk, I will report some recent progress to study such metrics in the Ads conformally compact Einstein setting. The main issues are: suitable set up of matching boundary conditions, ϵ regularity results, and the order of the ALE ends. As applications, I will report some compactness and finiteness results for family of such metrics.