

### **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,  $\epsilon$  regularity results, and the order of the ALE ends. As applications, I will report some compactness and finiteness results for family of such metrics.