

On the existence of radial graphs with constant scalar curvature

Flávio F. Cruz ¹,

¹ Universidade Regional do Cariri - URCA

Resumo/Abstract:

In this talk I will discuss about the problem of finding hypersurfaces of constant curvature and prescribed boundary in the Euclidean space, using the theory of fully nonlinear elliptic equations. The main result says that if the given data admits a suitable radial graph as a subsolution, then we can find a radial graph with constant curvature and that realizes the prescribed boundary. As an application we prove that if $\Omega \subset S^n$ is a mean convex domain whose closure is contained in an open hemisphere of S^n then, for $0 < R < n(n - 1)$, there exists a radial graph of constant scalar curvature R and boundary $\partial\Omega$.