Stochastic half-space theorems for minimal surfaces and H-surfaces of $\mathbb{R}^3$

Leandro F. Pessoa
Universidade Federal do Piauí - UFPI

Joint work with G. Pacelli Bessa and Luquésio P. Jorge
Universidade Federal do Ceará - UFC

Resumo

In this talk we present a version of the strong half-space theorem between the classes of recurrent minimal surfaces and complete minimal surfaces with bounded curvature of $\mathbb{R}^3$ We also show that any minimal hypersurface immersed with bounded curvature in $M \times \mathbb{R}_+$ equals some $M \times \{s\}$ provided M is a complete, recurrent n-dimensional Riemannian manifold with $\mathrm{Ric}_M \geq 0$ and whose sectional curvatures are bounded from above. For H-surfaces we prove that a stochastically complete surface M can not be in the mean convex side of a H-surface N embedded in $\mathbb{R}^3$ with bounded curvature if $\sup |H_{_M}| < H$, or $\mathrm{dist}(M, N) = 0$ when $\sup |H_{_M}| = H$. Finally, a maximum principle at infinity is shown assuming M has non-empty boundary.