

Liouville results for semilinear integral equations with conical diffusion

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This talk is devoted to nonexistence results of positive supersolutions, in a half-space, to elliptic equations of the form $-Lu = up$, involving linear stable operators $-L$ of order $2s$, whose spectral measure is assumed to be positive only in a relative open set of the unit sphere. Using a rescaled test function's method, suitably adapted to such nonlocal setting, we show that $u \equiv 0$ is the unique nonnegative supersolution in the subcritical regime $1 \leq p \leq (N + s)/(N - s)$, whereas nontrivial supersolutions exists, at least in the case $-L = (-\Delta)s$, for $p > (N + s)/(N - s)$. Joint works with Isabeau Birindelli and Lele Du.

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