NONLOCAL DIFFUSION OF SMOOTH SETS

ABSTRACT. In the spirit of Evans work on diffusion of smooth sets, we consider in this talk the normal velocity of smooth sets evolving by $s-$fractional heat equation. We prove that for small time, the normal velocity of such sets is proportional to the mean curvature for $s \in [\frac{1}{2}, 1)$ while it is proportional to the fractional mean curvature of its boundary for $s \in (0, \frac{1}{2})$.