



Einladung zum Oberseminar Mathematik in den Naturwissenschaften

Julius-Maximilians-Universität Würzburg
Lehrstuhl für Mathematik in den Naturwissenschaften

Anoumou Attiogbe

African Institute for Mathematical Sciences, Mbour, Senegal

Nonlocal diffusion of smooth sets

We consider normal velocity of smooth sets evolving by the s - fractional diffusion. We prove that for small time, the normal velocity of such sets is nearly proportional to the mean curvature of the boundary of the initial set for $s \in [\frac{1}{2}, 1)$ while, for $s \in (0, \frac{1}{2})$, it is nearly proportional to the fractional mean curvature of the initial set. Our results show that the motion by (fractional) mean curvature flow can be approximated by fractional heat diffusion and by a diffusion by means of harmonic extension of smooth sets.

This is a joint work with M. M. Fall and E. H. A. Thiam [1].

References

- [1] A. Attiogbe, M. M. Fall E. H. A Thiam (2022) *Nonlocal diffusion of smooth sets*. Math. Eng. 4 , no. 2, Paper No. 009, 22 pp. 35R11.

Ort: Mathematik Ost, 40.03.003

Zeit: Dienstag, 21.06.2022 um 10:00 Uhr

You are cordially invited to this lecture.

gez. Anja Schlömerkemper