

Thursday, May 13th, 12:00

Felipe Ponce Venegas

BCAM

Joint BCAM-UPV/EHU Analysis and PDE seminar: Static and Dynamical, Fractional Uncertainty Principles

How does the mean value of an observable evolve under the action of the linear Schrödinger equation? I will present some results when the observable, or weight, is a fractional power. One of the main tools is the static, fractional uncertainty principle, from which we can deduce a dynamical analogue. Motivated by the Talbot effect, I will show what happens when the initial datum is periodic and, in particular, the Dirac comb. In the latter case the evolution resembles a realization of a Lévy process, and the fluctuations concentrate around rational times and exhibit multifractality. This is a joint work with Sandeep Kumar and Luis Vega.

Link to the session:

<https://zoom.us/j/96837806543?pwd=QXlQR1NtZERXR0Q0Slg4N0MvK3FWUT09>

More info at <https://sites.google.com/view/apdebilbao/home>