

CMM PDE Seminar

Speaker: Ricardo Freire, Postdoc ANID en el DIM

Title: Energy decay for classes of nonlocal dispersive equations.

Abstract:

We consider the long-time dynamics of large solutions to a special class of evolution equations. Using virial techniques, we describe regions of space where every solution in a suitable Sobolev space must decay to zero along sequences of times.

Moreover, in the case of interior regions, we prove decay for a sequence of times. The classes of nonlocal dispersive equations which we will treat are as follows:

$$\{\partial_t u + L_\alpha u + u \partial_x u = 0, x, t \in \mathbb{R}, u(x, 0) = u_0(x),$$

where $\alpha > 0$, and the operator L_α is the Fourier multiplier operator by a real-valued odd function belonging to $(C^1(\mathbb{R}) \cap C^\infty(\mathbb{R}^*))$.

These classes contain, in particular, the following equations: the fractional KdV, Benjamin-Ono and the Intermediate Long Wave, for example.

Monday, August 7, 2023 at 12 Santiago time.

Venue: Online via Zoom / Sala de Seminarios, 5th floor, Beauchef 851

El link para acceder a la reunión de zoom es el siguiente:

<https://reuna.zoom.us/j/87947528106?pwd=SkJaMGd6aVlDTzMyb1kvUk9talhJQT09>

For further information, see our webpage: <https://eventos.cmm.uchile.cl/pdeseminar/>

