Ciências ULisboa

SEMINÁRIO

ANÁLISE E EQUAÇÕES DIFERENCIAIS

31 de Outubro | 13h30 | sala 6.2.33

Local well-posedness for the nonlocal derivative nonlinear Schrödinger equation in Besov spaces

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Abstract:

We study the Cauchy problem associated with the one-dimensional integro-differential nonlocal derivative nonlinear Schrödinger equation in the Besov space $B_2^{\frac{1}{2},1}(\mathbb{R})$. The local well-posedness for small initial data in $B_2^{\frac{1}{2},1}(\mathbb{R})$ is established. Our method of proof combines the contraction principle applied to the associated integral equation together with interpolations of some smoothing effects (Kato's smoothing effects, Strichartz estimate and estimates for the maximal function) for phase localized functions associated to the linear dispersive part of the equation, and a fractional vector-valued Leibniz's rule derived by Molinet and Ribaud [1].

CMAFcIO

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