On well posedness for some inhomogeneous Schrödinger-type equations

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Abstract

We consider the inhomogeneous nonlinear Schrödinger equation (INLS)

$$i\partial_t u + \Delta u + \lambda |x|^{-b} |u|^\alpha u = 0, \quad t \in \mathbb{R},\ x \in \mathbb{R}^N \tag{1}$$

and the inhomogeneous biharmonic NLS equation (IBNLS)

$$i\partial_t u - \Delta^2 u + \lambda |x|^{-b} |u|^\alpha u = 0, \quad t \in \mathbb{R},\ x \in \mathbb{R}^N, \tag{2}$$

where $\lambda = 1$ (focusing), $\lambda = -1$ (defocusing) and $\alpha, b > 0$.

In this talk we discuss some results for (1) and (2), such as local and global well-posedness. To this end, we use the Fixed Point Theorem based on the Strichartz estimates.

These results were obtained in collaboration with Ademir Pastor (UNICAMP), Luiz Farah (UFMG) and Mykael Cardoso (UFMG).

Referencias

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