On the mass-critical inhomogeneous NLS equation

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We consider the inhomogeneous nonlinear Schrödinger (INLS) equation

$$iu_t + \Delta u + |x|^{-b}|u|^{\frac{4-2b}{N}}u = 0, \;\; x \in \mathbb{R}^N,$$

with $N \geq 1$ and $0 < b < 1$, which is a generalization of the classical nonlinear Schrödinger equation (NLS). Since the scaling invariant Sobolev index is zero, the equation is called mass-critical. In this talk we discuss some blow-up results in the non-radial setting, obtained in collaboration with Mykael Cardoso (UFPI-Brazil).This work is partially supported by CNPq, CAPES and FAPEMIG-Brazil.

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