XX Encuentros de Análisis Real y Complejo
Cartagena, 26-28 de mayo de 2022

POINTWISE DESCRIPTIONS OF NEARLY INCOMPRESSIBLE VECTOR FIELDS WITH BOUNDED CURL

BANHIRUP SENGUPTA

Abstract. In this talk I will explain a recent work, in collaboration with Albert Clop, where we provide a pointwise characterisation of nearly incompressible vector fields $b : \mathbb{R}^n \to \mathbb{R}^n$ with $|x| \log |x|$ growth at infinity for which $\operatorname{curl} b = Db - D^t b$ is bounded.
In the plane we can go further and describe still in pointwise sense, the vector fields $b : \mathbb{R}^2 \to \mathbb{R}^2$ for which $|\operatorname{div} b| + |\operatorname{curl} b| \in L^\infty$.

Universitat Autònoma de Barcelona
E-mail address: banhirup.sengupta@gmail.com