

Spatial Asymptotic Expansions in the Euler Equation

Petar Topalov

Northeastern University, USA
p.topalov@northeastern.edu

Using a geometric approach we prove that the Euler equation describing the motion of an ideal fluid in \mathbb{R}^d is well-posed in a class of functions allowing spatial asymptotic expansions as $|x| \rightarrow \infty$ of any a priori given order. These asymptotic expansions can involve log terms and lead to a family of conservation laws.