

Local mild solutions to three-dimensional magnetohydrodynamic system in Morrey spaces

Zirong Zeng¹

¹Shanghai Jiao Tong University

October 8, 2020

Abstract

In this article, the Cauchy problem of three-dimensional (3-D) incompressible magnetohydrodynamic system with infinite energy initial data is investigated. Via some elaborate analysis of the time evolution of both the vorticity $\omega =: \nabla \times u$ and the current density $j =: \nabla \times b$, the local-in-time well-posedness of mild solutions with arbitrarily large initial data in Morrey spaces is established.

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