
Stability of time periodic solutions of the Navier-Stokes-Maxwell system

Slim Ibrahim^{*†1}, Pierre Gilles Lemarie-Rieusset², and N. Masmoudi³

¹University of Victoria – Canada

²University of Evry – University of Evry – France

³New York University – United States

Abstract

We study global wellposedness of a time periodic forced system of Magneto-Hydro-Dynamic equations. The system is a coupling of the incompressible Navier-Stokes equations with the Maxwell equations through the Lorentz force and Ohm's law for the current. We first show the existence of global small time-periodic mild solutions. Then, we prove their asymptotic stability.

This is a joint work with P. G.-Lemarie and N. Masmoudi

*Speaker

†Corresponding author: ibrahims@uvic.ca