

Global mild solution for the Navier–Stokes–Nernst–Planck–Poisson system in Besov-weak-Herz spaces

Aibo Liu¹ and Jianing Xie²

¹Liaoning Normal University

²Dongbei University of Finance and Economics

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Abstract

We study a coupled Navier–Stokes–Nernst–Planck–Poisson system arising from electrohydrodynamics in critical Besov-weak-Herz spaces. When the initial value sufficiently small, we prove the existence and uniqueness of global mild solution to the Cauchy problem in this spaces for $n \geq 3$. The spaces is larger than some other known critical spaces.

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