
The Taylor model in magnetohydrodynamics (MHD)

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Abstract

We shall discuss a model introduced by J.B. Taylor in 1963, that comes from a formal asymptotic limit of MHD equations with rotation. This asymptotic model, relevant to the Earth's dynamo problem, should in principle allow for easier numerics. However, its simulation has been unsuccessful so far, due to unclear stability properties. The aim of the talk is to present recent mathematical results on this stability issue (joint work with I. Gallagher, L. Saint-Raymond)

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