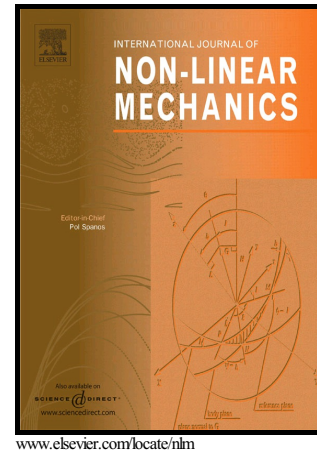


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GENERATION OF AXISYMMETRIC MAGNETOSONIC SHOCK WAVES: APPLICATIONS TO STATIC EQUILIBRIA AND ACCRETION DISKS

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Abstract

Magnetosonic waves traveling in a MHD equilibrium may evolve into shocks. We develop a criterion for the creation of fast shocks in the equatorial plane of axisymmetric equilibria and analyze the influence of the most important parameters. The results are applied to Grad-Shafranov equilibria and accretion disks.

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Keywords: Shock waves, fast magnetosonic waves, MHD equilibria, accretion disks

1 Introduction

This paper deals with the creation of magnetosonic shock waves in axisymmetric MHD equilibria. While the theoretical results hold for all cases, the practical application of them requires a knowledge of the particular situation we are

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