
Instabilities on a two layer shallow water model on the sphere

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Abstract

Rossby waves originating in the tachocline of the Sun have been recently proposed as a fundamental mechanism behind the magnetic activity of the Sun. Here, we study stratification effects on the dynamics of those waves using a two layer shallow water model. In particular, we investigate linear instabilities arising in the presence of radial and latitudinal shear.

Keywords: Normal modes, astrophysical flows

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