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Elliptic instability in the alpha-model family of turbulence models in MHD BRUCE FABIJONAS, Southern Methodist University, DARRYL HOLM, Imperial College — We examine elliptic instability in the MHD analogue of the family of NS turbulence models known as alpha-models. The instability is an exact solution of the classical MHD equations as well as the discussed turbulence models for MHD. The instability arises when a wave whose wave vector has general temporal behavior traveling in three dimensions interacts with a two dimensional swirling flow. Such waves are known as Kelvin waves. We use the instability to study how various turbulence models affect the classical solutions of the MHD equations.

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