Dissipative Ballooning Modes in Accretion Disks and Toroidal Configurations[1] ELIEZER HAMEIRI, New York University — Recently there has been an attempt [1] to investigate the stability of dissipative rotating accretion disks imbued with a magnetic field, with respect to localized (i.e., ballooning) modes. Some mistakes were made in the analysis, which we correct in this work. The more technically challenging issue is the choice of the dependent variables to be used. In ideal MHD stability analyses, it is common to use the Lagrange displacement vector $\boldsymbol{\xi}$, but in dissipative systems this choice does not appear obvious since it is not possible to solve most other perturbed quantities in terms of $\boldsymbol{\xi}$. We nevertheless show that the perturbation equations are simplified this way, and in particular, if we are interested in small diffusivity, the $\boldsymbol{\xi}$-equations lend themselves to more easily obtaining the small deviation of the growth rate from ideal plasma.

[1] A. Kirillov and F. Stefani, Phys. Rev. Lett. **111**, 061103 (2013).

Eliezer Hameiri
New York University

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