

Abstract Submitted
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Spontaneous generation of large-scale fields in plasmas under directional noise. CHANG-BAE KIM, Soongsil University — Generation of a large-scale magnetic field in a plasma has been proposed as a way of stabilizing measure when the plasma is stirred by a parity-nonconserving noise. In this work, reduced MHD equations are used to reconsider the problem. It is shown that, unlike the full MHD equations, it is the renormalized response of the velocity that is unstable to the noise that has a unique direction. Introduction of the mean constant magnetic field is shown to play a stabilizing role and the size of the mean field is computed by balancing the two opposing effects. The role of the mean velocity will be discussed in the presentation.

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