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**Elastic Turbulence in Flatland: Interfaces, Blobs and Transport**[1]

PATRICK H. DIAMOND, University of California, San Diego — In this paper, I discuss transport and mixing in 2D MHD and 2D Cahn–Hilliard–Navier–Stokes turbulence. These are closely related systems of fundamental importance. In each case, we see that: i) a system of blobs and barriers (interfaces) form in the turbulent state, ii) the blobs form by an inverse cascade-like aggregation process, and iii) the barriers at interfaces regulate transport. We see that barrier location and packing fraction are central to mixing and transport. Special attention is focused on how interfaces encode memory in these systems. We discuss implications for the classic problem of turbulent resistivity.

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Patrick H. Diamond
University of California, San Diego

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