

OPEN CHAOTIC ADVECTION

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I will review some dynamical aspects of open chaotic advection. I will argue, following the tradition of the theory of dynamical systems, that chaotic advection can be understood in terms of dynamical invariants. In particular, particles transported by fluid flow often generate filamentary patterns, which have a fractal structure, due to the presence of chaos in the underlying dynamics.

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Chemical and biological activity in open flows: A dynamical system approach, T. Tél, A. Moura, C. Grebogi and G. Károlyi, Phys. Reports **413**, Issues 2-3, pages 91-196 (2005)