

The finite size Lyapunov exponent and other measures of spread

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ABSTRACT: Various measures of dispersion including the Finite Size Lyapunov exponent, the self part of the intermediate scattering function, and the relative scattering function will be discussed. Results for theoretical, laboratory, and numerical examples in porous media will be presented and discussed in terms of scale issues. Laboratory media include homogeneous and heterogeneous porous structures and numerical and theoretical results will be presented on alpha stable Levy processes. These measures can give insight into the levels of dispersion as well as mixing.