Rare event statistics and characteristic lifetimes in transient turbulence TOBIAS KREILOS, LAURELINE HENTGEN, EPFL - Lausanne, BRUNO ECKHARDT, Fachbereich Physik, Universitt Marburg, TOBIAS SCHNEIDER, EPFL - Lausanne — We numerically study transitional turbulence in plane Couette flow at Reynolds numbers where turbulence is transient. Monitoring the distance to the edge of chaos for a large number of turbulent trajectories, we compute the return period for reaching the vicinity of the edge. The measured return period of the turbulent state is linearly correlated with the characteristic lifetime of the decay. This suggests a way of predicting characteristic lifetime of transient shear turbulence.

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