

The Transition to and from Turbulence in a Pipe.

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A discussion of experimental investigations of the stability of flow along a pipe will be given. The transition to turbulence is catastrophic when a well-defined amplitude of injected perturbations is exceeded. The stability threshold scales inversely proportional to the Reynolds number, Re , with a sharp cut off at low Re values. On the other hand, the decay from the turbulent state exhibits systematic exponential behavior with diverging timescales which are indicative of critical behavior. The long transients contain spatio-temporal coherence which suggest connections with recent theoretical developments.