

A New Theory of Mixing Scale Selection: What Determines the Avalanche Scale?

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- Staircase – co-existence of heat avalanches and ExB sheared flows – observed to form. How understand the emergence of step size, *an outer scale for avalanches?* → *Heat Flux Jam!*
- A key element in the theory → **time delay** between *instantaneous heat flux* and *mean heat flux*. The finite time delay allows **heat flux waves** as a new exciton, in addition to heat flux pulses.
- For *long* response time, pulses overtake heat flux waves and **jamming** happens.
- The scale for the maximal jam growth is predicted. The scale is typically about 10 correlation length, comparable to avalanche outer scales observed in simulations

