

Seminar

Role of large scale structures in instabilities and turbulence

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In basic instability analysis, we typically study the growth of the primary mode. The saturation of the growth, secondary instabilities, and pattern formation are due to secondary modes. The nonlinear dynamics of the large-scale primary and secondary modes are very interesting. We will present some of the recent work on the same for Rayleigh Benard convection.

It has also been observed in experiments and numerical simulations that the imprints of the large-scale modes are present even when the flow has become fully turbulent. One such phenomenon is flow reversals in turbulent convection. We will show in that the large-scale fields play a major role in this dynamics. Such features are also observed in magnetic field reversals of dynamo.

Thursday, Dec 8th 2016

4:00 PM (Tea/Coffee at 3:45 PM)

Seminar Hall, TCIS