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Animation of Drift Ballooning Modes and Zonal Flow Turbulence

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linearly generate toroidally symmetric (\textit{n} = 0) modes (so-called “zonal flows”) with radial variation. The sheared \textit{E} \times \textit{B} motion from these zonal flows in turn stabilizes the high-\textit{n} modes that cause radial transport. If the zonal flows are collisionally damped, the level of transport will typ-
ically increase. This predator-prey picture is believed to represent the nonlinear saturation mechanism of high-\textit{n} turbulence in tokamaks. In this poster we present a continuous stream of animations from the con-
tinuum gyrokinetic code GYRO to illustrate drift-balloning modes and zonal flows in linear states and in fully developed states of ion temperature gradient turbulence. We show rescaled flux tube simulations (where ed-
dies shrink as the relative gyroradius decreases) as well as movies of the self-consistent zonal flows extracted from the full nonlinear simulation.

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