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### **Transport Bifurcation in a Rotating Tokamak Plasma<sup>1</sup>**

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A study of turbulent transport in the experimentally interesting regime of zero magnetic shear, using local nonlinear gyrokinetic simulations with equilibrium flow shear, has revealed the existence of a transport bifurcation. For a given ratio of input torque to input heat it is possible, by varying the overall input power, the temperature or the density, to trigger a transition in the flow and temperature gradients from low values to high values. It is also found that the plasma is linearly stable for all non-zero flow shears, and that therefore the turbulence is subcritical. Furthermore it is discovered that flow shear decreases the profile stiffness at low values of the heat flux, but can increase it at higher values.

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