Minutes of the NCSX Physics Meeting of 10/7/99

Greg Rewoldt discussed his drift mode calculations in nonaxisymmetric geometry. Greg has converted the electrostatic version of his FULL tokamak linear microinstability code to work in stellarator geometry. The code uses the lowest order ballooning representation, and includes trapped particles, FLR effects to all orders, banana orbital dynamics, bounce and transit and magnetic drift frequency resonances, equilibrium shaping effects, etc. A Krook model has been used to include collisional effects. The stellarator version of the code uses VMEC to calculate the required equilibria, and the Terpsichore and VVBAL MHD stability codes to generate the required data along magnetic field lines. The stellarator version of the FULL code has been validated on axisymmetric equilibria. The code has also been applied to Configuration C82. Calculations of the unstable TEM and ITG roots give results qualitatively similar to those obtained in tokamaks. A calculation for LHD is in progress, and will provide information on the effects of large helical ripple wells.