

Stellarator Transport Studies

H.E. Mynick, Stellarator Teleconference 11/14/06

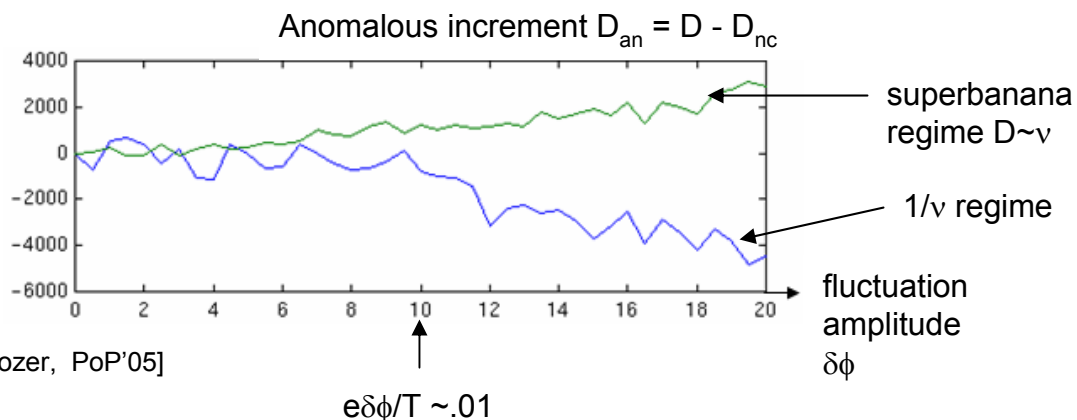
-A motivating goal for coming research:

Develop configurations optimized for nc + turbulent transport, *via* (a) configuration shape, (b) mode of operation.

-Will help assess relative pros & cons of QAs, QHs, QOs.

-nc + turbulent transport:

-Characterize changes in mode structure & γ 's, turbulent transport as configuration changes.



[From Mynick, Boozer, PoP'05]

- Analyze simulation results from gk simulation codes, eg, GENE (Jenko), GS2(Dorland), & (when available) GTC (PPPL).
- Study configuration-dependence of turbulent enhancement of collisionality, with more realistic mode spectrum. (FY08)
- Test & clarify potentially important idea (Yamada, '04) that nc optimization → turbulent optimization.
- Exploration of operational modes (eg, electron roots, root-jumps) ala Stroth [PRL, '01] to produce ITBs can be simulated, tested experimentally.