LLNL FY06 plans for PFC tasks

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PFC Meeting
PPPL

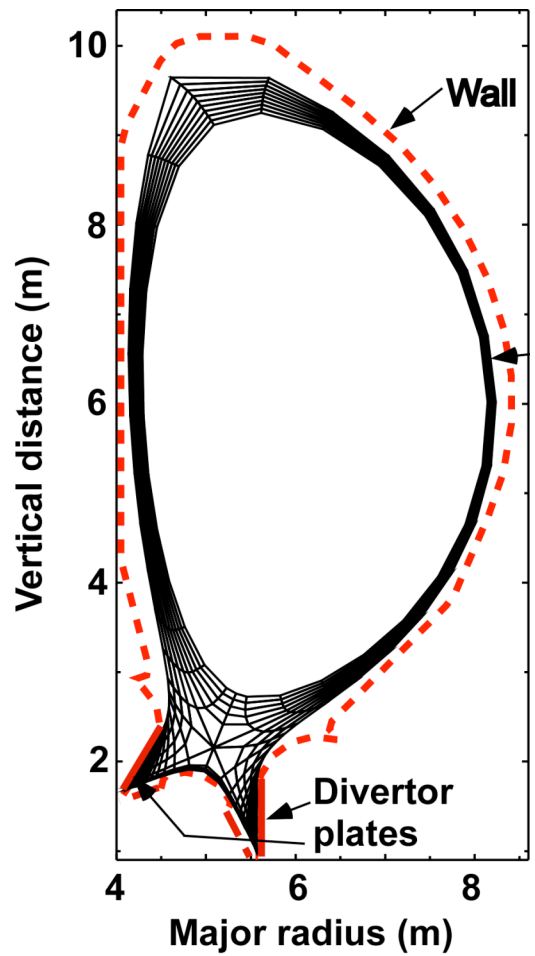
1. Continue to provide edge-plasma fluxes/response; mixed materials & Li

Characterizing the edge plasma region adjacent to PFCs ($145k - FY06)

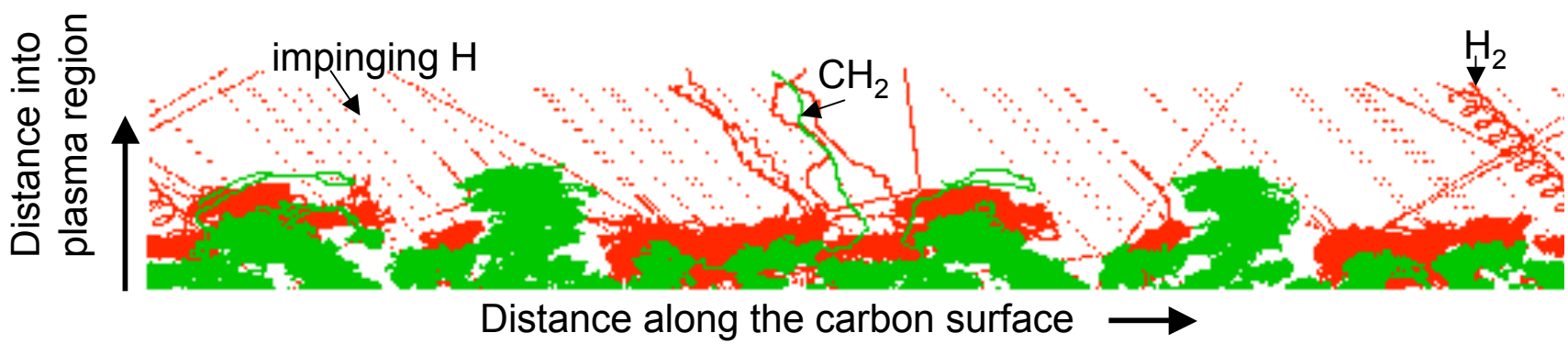
1. ITER DT edge-plasma transport modeling for Be sputtering
2. Evolve ITER Be through SOL with cross-field transport
3. Analyze Li edge transport for NSTX (and CDX-U and LTX)
4. Initial simulation of ITER convective edge transport via BOUT turbulence

Extensions beyond base-budget

1. Evaluate impurity transport [inward] with trace species in BOUT
2. Model impact of repetitive, moderate ELMs



2. Continue to provide sputtering simulations and understanding; extend to Be

Determining sputtering coefficients using Molecular Dynamics ($45k - FY06)

1. Resolve differences in low energy (< 50 eV) chemical sputtering; REBO/AIREBO and level of D flux
2. Compare yields between inter-atomic potentials from # 1 and *RELAX* (Caltech) in carbon; and *RELAX* Be
3. Begin simulations using *RELAX* Be-C potentials