

DIII-D Wall Change Out—Include All the Costs

- **Without a carbon wall, the quality of CER system will suffer**
 - Even with SiC, C signal will still be dramatically reduced
- **Other options are problematic, often require active seeding**
 - Neon's higher Z is problematic for the edge
 - Nitrogen has an awful spectrum
 - Boron means constant boronization (and then do you really have a metal wall?)
 - Main-ion CER would need lots of work to increase the throughput, cannot give Er
- **Assuming many experiments will want Ti, rotation, and/or Er with a new wall, major work will be needed**
 - UF-CHERS and CXI will suffer at least as bad as CER
- **The work required for CER could be very large, cannot be an afterthought**
 - End result will have higher error bars, lower time resolution, less availability, etc.
- **Other diagnostics will suffer, require reworking, many diagnosticians are scientist-diagnostics; work to recover from wall change will deduct from research output!**