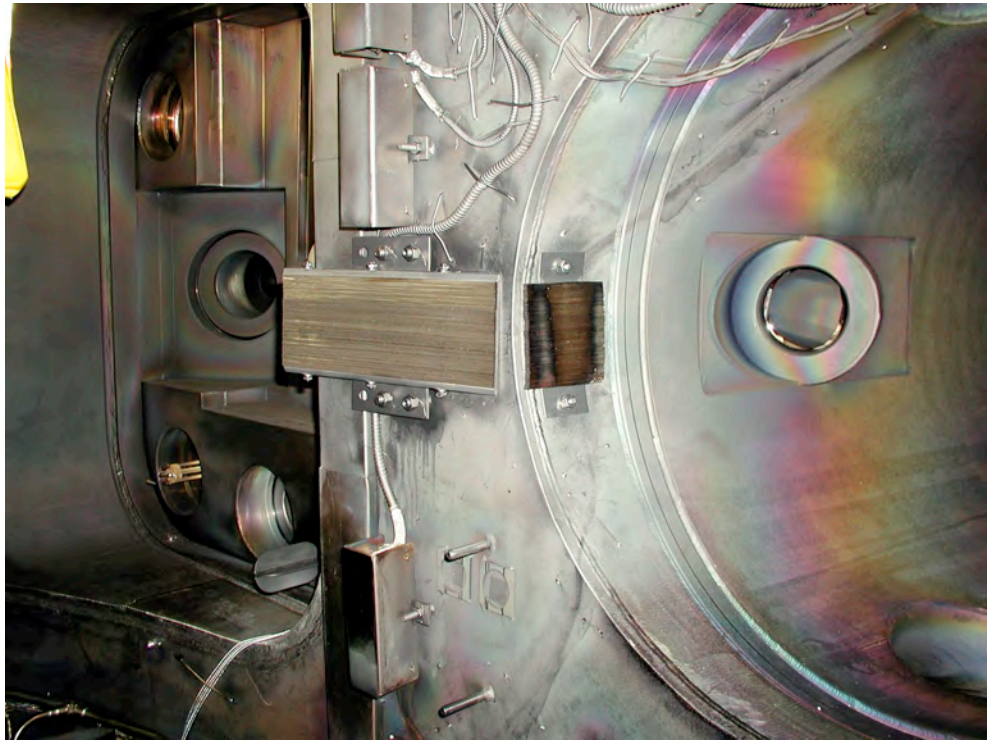
Research Operations Division
Boundary Physics *(H. Kugel)*

- Lithium Pellet Injector
  - Performed fit-up in NTC then removed it to diagnose firing problems
  - Now operational after fixing propellant valves
  - Aiming for readiness by April 9
- Vessel inspected, photographed, sampled during the opening
  - Characterized dust deposited on a lower window (C. Skinner)
- Boronizations 22 (room temp.), 23 (bakeout temp.) performed
  - Ready for assessment on Monday (pending SPRED revival)
- Preparations continue for supersonic gas injector
- UCSD collaborators will visit at the end of next week to complete recommissioning fast reciprocating probe
- Boundary Physics ET reviewed 4 XPs

Research Operations Division
Diagnostics *(D. Johnson, R. Kaita)*

- Installed viewing dump for CHERS during vacuum opening



- Reflections of intense edge CVI emission had made data un-analyzable in critical “gradient region” without NB notching

Research Operations Division
Diagnostics *[2]*

- Replaced MPTS viewing window which had become coated early in run
  - Now monitoring window transmission regularly with internal filament
  - Performed Rayleigh/Raman scattering calibrations last week
- SPRED should be reinstalled in time for assessment of “hot-boronization”
  - Failed suddenly on 2/18 although individual parts seemed OK
  - Revived after a vacation on CDX-U
- Installed a new detector array on the midplane tangential bolometer
- D. Pacella, G. Pizzicaroli (ENEA) reinstalled PIXCS 2D X-ray imaging
- N. Nishino (Hiroshima U) visiting until April 23
  - Photron fast camera installed in reentrant lower divertor observation port
- Reinstalled reflectometer systems
  - T. Peebles (UCLA) will visit next week

Research Operations Division
RF Systems *(R. Wilson)*

- HHFW system brought into full operation
  - Reestablished old control capabilities on new computer platforms
  - New control capabilities exercised successfully
- Coupled more than 3MW
- Operations still impacted by rf pick-up in magnetic diagnostics
  - Could not run with rtEFIT control
    - RF filters on digitizers helped, but but not yet fully tested
  - With old control system, some pick-up still present
    - Dependent on rf phasing: limits power
- Successfully used RF system in plasma initiation experiment
  - Required several operational modifications

Research Operations Division
Physics Operations *(D. Mueller, D. Gates, R. Raman)*

- rtEFIT/isoflux shape control was used successfully in some experiments
  - Still have issues with "hand-off" from preceding phases
    - Code can fail if X-point wanders out of defined search region
  - RF noise creates serious problems
  - Need to build in new model for CHI absorber structure (EFIT upgrade)
  - Improve vertical control by incorporating analog dZ/dt measurement
  - Considering ways to speed up code for use in ramp-up phase
- Reviewed XP to measure frequency response of sensors and vertical instability growth rates
- Tested new real-time data acquisition for feedback control of RF loading
  - Additional 32 channels added only ~100μs to propagation time
- Construction of CHI capacitor bank proceeding for use in May