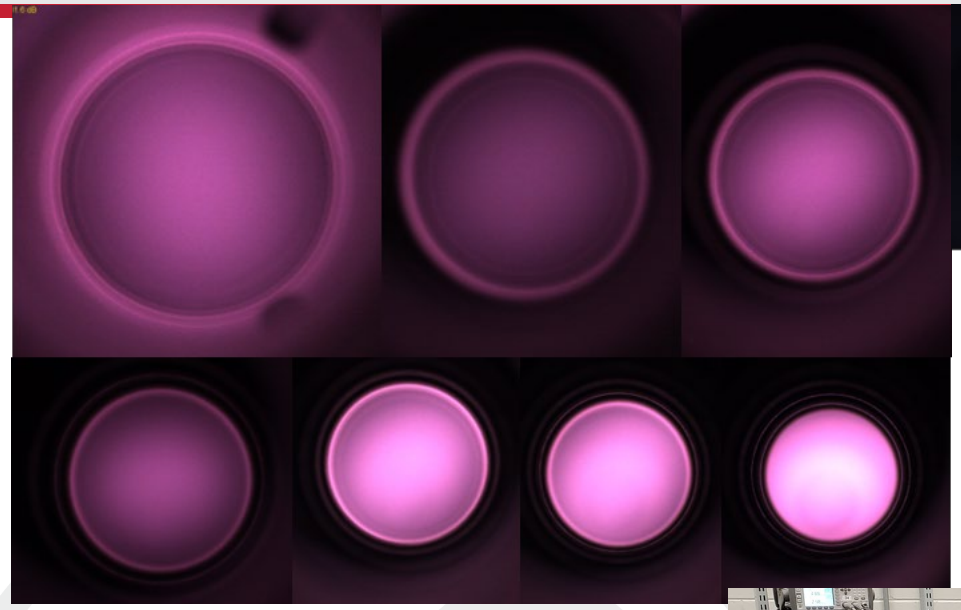
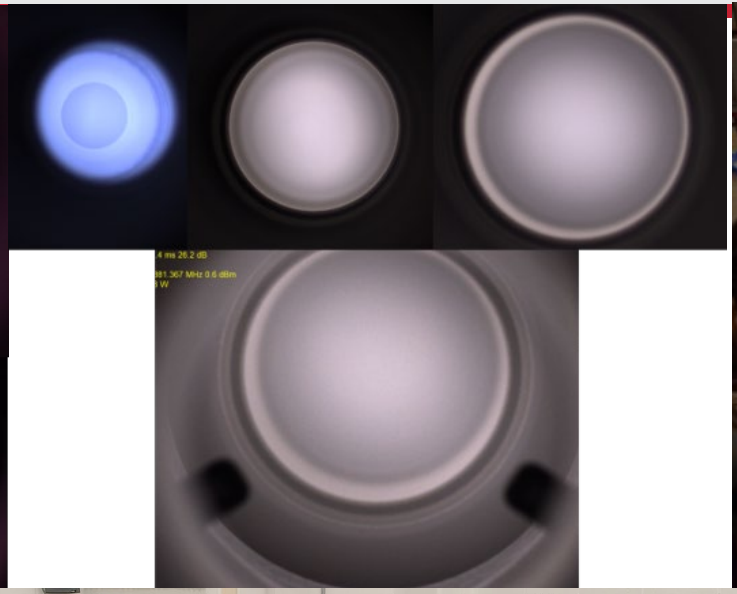
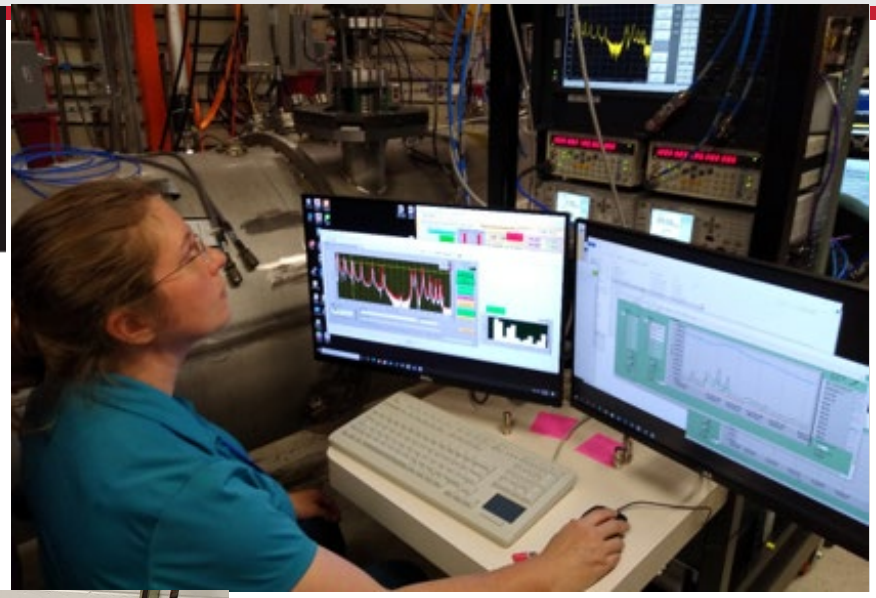
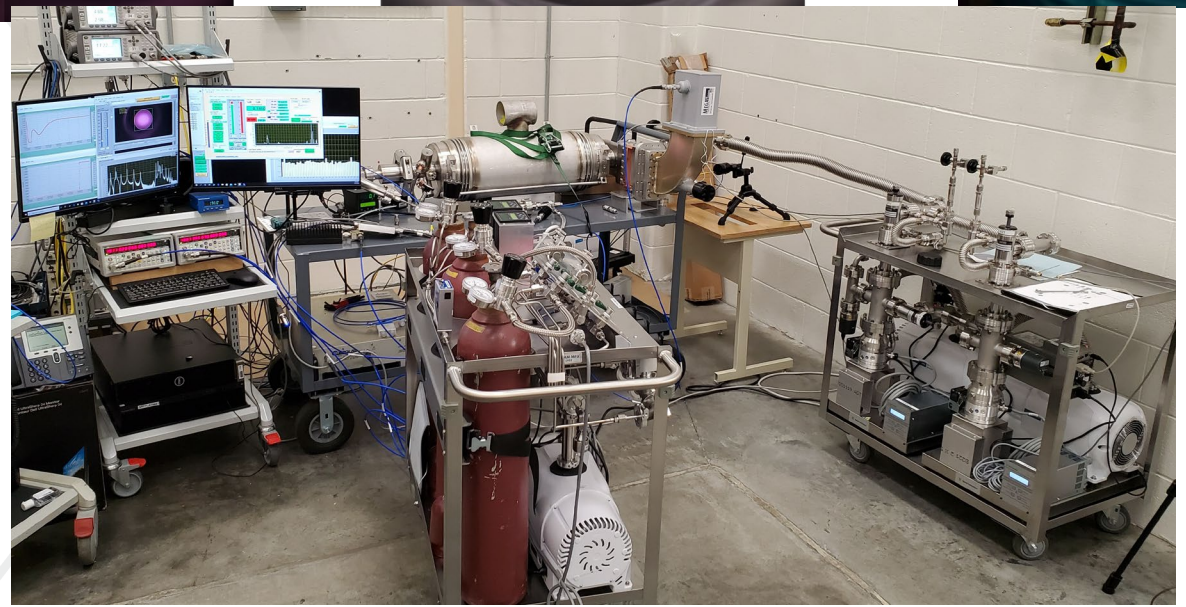
Summary









Tom Powers and Tiffany Ganey

Plasma Processing Readiness review
28 Feb. 2023

Jefferson Lab

Other contributors:

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Vertical Tests:	Clean room staff VTA staff
Cryomodule Processing and testing:	Mike Drury Frank Humphry Larry King CM assembly team

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Overview

- **We have a detailed plan for the work in the tunnel.**
- **We have the RF, vacuum and gas supply systems necessary to do the work.**
- **The plan is to use two gas supply and vacuum carts so that we can prepare one cryomodule as we are processing another.**
- **The bulk of the work is vacuum and cryogenics in order to get the cryomodules prepared for processing and to recover them back to 2K.**
- **We will be relying on cryomodule assembly staff for positioning the clean rooms and for connecting and disconnecting the vacuum and gas supply carts.**
- **Plasma processing will be done one cryomodule at a time, 4 cavities at a time. We will need to run 10 to 12 hours per day and will rotate processing staff in and out as necessary.**
- **The waveguide tophats are located high enough up in the air such that making connections is an ODH 1 operation. We will mitigate this by leaving a 6 foot cable connected to each one.**
- **We have a plan that addresses ALARA in the zones that are declared radiation areas.**
- **We have almost completed the baseline field emission onset measurements.**

Plasma “checklist”

- 4 clean rooms are due in a few weeks. They will need assembly and to have some electrician effort before they are ready to go into the tunnel (April 5th). We need to do a work request. Backup plan is to use two of the clean rooms that belong to the tunnel crew.
- A few weeks of LabVIEW software effort in order to make things less confusing regarding the motorized phase shifters, adjust the calibration routine parameters, etc. and port it around to the three plasma computer setups.
- In theory CUE network connections are available in the C100 zones they will need to be identified. We already have a group user name, etc. which will facilitate changing shifts, etc. without stopping the processing.
- Once the down starts we will need to coordinate with RadCon regarding access to the C100 zones.
- We have to replace the tip seals in the last scroll pump or two so that they are all “fresh” and so that we have two on the shelf spares.
- We need to swap network analyzers in one of the RF crarts.
- We need to do a clean assembly and leak check the 4 gas and vacuum manifolds, waiting on some gas filters which shipped yesterday.
- We have to stage the necessary tool kits, miscellaneous, RF components, cables, etc. that we will need in the tunnel.

Paperwork “checklist”

- Procedures, procedures, procedures. We know what we are doing we just have to edit them and make sure that they match the “current” version of the software.
  - Characterizing with the phase shifter
  - Determining the modes especially the cell 1 mode with newly modified mode identification software.
  - Final signoff on the clean vacuum procedures and check lists.
- OSP needs to be signed off.
- We own the system several ATList entries
  - EES-SRF writes ATList for plasma waveguide work
  - Plasma team 3 ATList entries for plasma processing
    - Setup/breakdown,
    - Processing
    - Post processing FE measurements,
  - SRFOps (Frank or Mike) cryomodule valve changes.