

Operating Procedures for SPUT6 Desk V Vacuum Sputter System

***Do not place wet or semi-dry samples in the sputter coater.
Always wear gloves when handling vacuum chamber components and samples.**

Set-Up and Sample Loading

1. Log usage into CoreResearch@Duke.
2. Log usage into SPUT6 log book.
3. Turn power on with switch on back on instrument.
4. Lift head assembly and flip to the side.
5. Check target to see if it needs to be replaced. If it needs to be replaced, please see a SMIF staff member.
6. Load samples onto stage.
7. Lower head assembly and make sure it seals properly. Make sure the cables are not in the way.
8. Open the Argon gas line.

Sputter Deposition

9. Press the **Run** button.
10. Press the **Start** button.
11. Press the **Screens** button.
12. Press the **Timed Sputter** button.
13. Press in the **Sputter Setpoint** field and set to **12mAmps**. Press the **Ent** button.
14. Press in the **Process Time** field and set the sputtering time to the desired amount (in sec). Press the **Ent** button.
***NOTE:** Do not run SPUT6 for more than 600 seconds. If you wish to sputter for longer than 600 seconds, you will need to vent the system. Then let the system cool down, pump your samples back down and sputter coat again.
15. Press the **Vent After Sputter** button. This button should be **green** and read **"enabled"**.
16. Press **Time Sputter Enabled** button. This button will disappear and the system will start pumping down.
17. Press the **Overview** button to see the sputter process.
18. When the system starts sputtering, check the vacuum value. Keep the value between 4.0-5.7e-2. This is done by turning the **Gas** knob on the top of the sputter coater.
19. When the sputtering is complete, the chamber will vent automatically.
20. When the chamber has vented (around 1.8e+02 Torr), lift the head assembly.
21. Remove samples and then lower the head assembly.
22. Turn system off with the switch on the back.
23. Close the Argon gas line.
24. Log out of CoreResearch@Duke.