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Ion Pump Rejuvenation Procedure

After prolonged periods of sputtering with Argon gas, the ion pumps can become saturated. This results in occasional "belches" of Argon during which the ion pumps overheat and release large amounts of gas. These belches usually result in a snowball effect that dumps the system. Rejuvenating the ion pumps once every few months (more often if you do a lot of sputtering) will help to prevent the belch problem from recurring.

To rejuvenate the ion pumps with O₂:

1. Turn off all filaments, including the ionization tube (DIG).
2. Set the ion pump control panel meter to the 200mA current settings and set the ion pump to the run (protected) mode.
3. Slowly bleed in O₂ until there are 40mA of current shown on the ion pump panel meter. You will need to change ranges on the panel meter as the current is increased.
4. Adjust the leak valve as needed to maintain 40mA of current for 20 to 30 minutes.
5. Close the leak valve. It takes about one day for the vacuum to return to its previous level.