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Burn-in Procedure for LaB₆ Filaments

The following procedure will help maximize the performance and lifetime of your new LaB₆ filament.

1. Bake-out the system for *at least* 8 hours and achieve a low 10^{-10} torr base vacuum.
2. Turn the 20-610 OFF.
3. Turn the 20-622 ON and set the emission voltage to 0% in AugerMap.
4. Set the beam voltage to 100 volts.
5. Set the filament current fully CCW.
6. Turn the 20-610 ON.
7. Slowly bring the filament current up to 1.3 A while monitoring the system vacuum. Keep the vacuum in the low 10^{-9} torr range while bringing the filament up to 1.3 A. It may take about 30 minutes to get to 1.3 A.
8. Turn the filament down to 0 A.
9. Set the emission voltage to 100% in AugerMap.
10. Slowly turn the filament back up to 1.3 A.
11. Backfill the system with O₂ to 5×10^{-7} torr for 10 minutes.
12. Turn the O₂ off and let the system vacuum recover.

The filament is now out-gassed and ready to characterize.