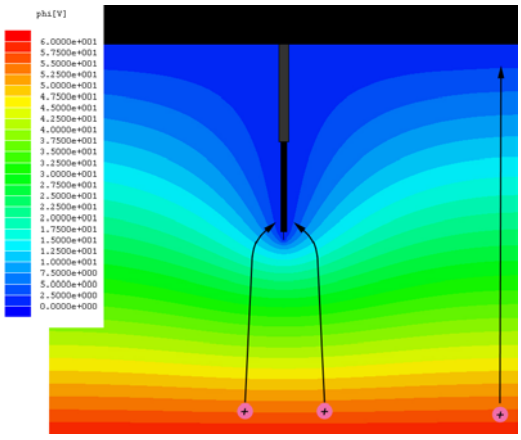
Model PCPT

Plasma Trimmer™
Patent Pending

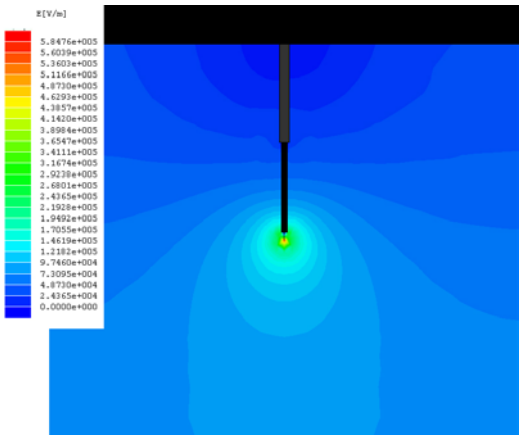
TEM Sample Preparation

The Model PCPT Plasma Trimmer™ is an accessory to the SBT PC-2000 Plasma Cleaner for the removal of ion damage or oxidation from FIB-prepared, ion milled, or Tripod polished TEM samples. Low energy ions extracted from the plasma impinge on the sample, which is held in a vertical orientation using a modified Fortress™ holder. The holder is held in a receptacle enclosure that is screwed into an adapter plate clamped to the antenna of the PC-2000. The ion energy is determined primarily by the negative self-bias voltage on the antenna and is controlled by the RF power and gas pressure. The bias voltage is controllable up to -1000 V. The geometry of the sample shapes the electric field distribution, which causes the ions to bend in towards the sample for improved ion milling conditions. Thickness rate changes for Si of 7 nm/min (500 V) and 0.7 nm/min (200 V) have been measured. The same holder used in the PCPT is used to make *In-situ* lift-out and H-bar FIB samples. After Plasma Trimming™, the samples can be stored in a SBT SampleSaver™ storage container to minimize re-oxidation of the samples until ready to be used.

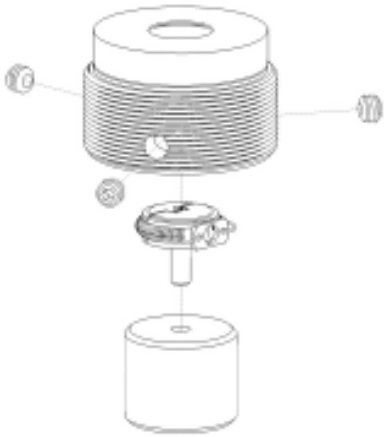
PCPT Plasma Trimmer™



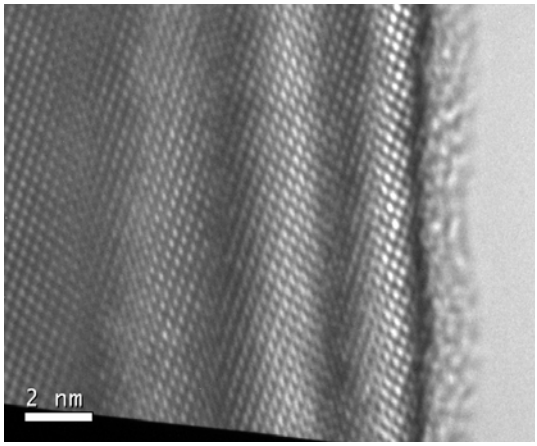
Equipotential Lines (H-bar)



Electric Field Strength (H-bar)



- **Easy to use.**
- **0 to -1000 Volts.**
- **Compatible with different gases and gas mixtures.**
- **Does not affect plasma cleaning capabilities.**
- **Compatible with SampleSaver™ storage containers.**
- **Compatible with all FIB instruments.**



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