Precision Ion Polishing System

1. Load sample in PIPS holder. Make sure sample is centered in holder.
2. Turn the main power on if it is not on. Record necessary parameters on the Log sheet.
3. Open the main valve of the pressured Ar gas cylinder.
4. Load PIPS holder into the airlock chamber:
    a. Raise the receiver of the PIPS holder
    b. Vent the chamber by pressing the *Vent* button
    c. Insert PIPS holder into the receiver.
    d. Make sure that PIPS holder is seated and the clamps are parallel to the long axis of the machine. Put airlock lid back on.
5. Pump down the airlock chamber by pressing the *Vacuum* button. The green light will illuminated when the airlock has reached the proper pressure.
6. Lower receiver into PIPS by pressing *Airlock Control Lower* button.
7. Adjust and focus the optical microscope for monitoring the ion milling process.
8. Consider the following conditions as typical when do ion milling:
    a. Ion gun tilt angles: +4º (left or right) and – 4º (the other side)
    b. Rotation speed = 3
    c. Accelerating voltage = 4 kV
    d. Beam modulator off
9. Turn gas controllers (on the front PIPS panel) on, set the desired time on the timer, press *Start* button.
10. Perform fine adjustment of accelerating voltage to 4 kV by adjusting *Ion Gun Voltage* knob until 4 kV reads on the *Beam Energy Display* panel.
11. Close the main valve of the Ar gas cylinder.
12. When you specimen is done, take it out. If you want to use it within next two or three days, pump the chamber and leave the vacuum system on. If no one is going to use it in a short time, pump the system down and turn off the power. Close the main valve of the Ar gas cylinder.