01/07/2021

**I&C signals for UITF irradiation beamline to be integrated in EPICS**

Pneumatic valve

Solenoid

Fast valve

Ion pump

P gauge

Sample carriage

Viewer

S1

S2

1. Ion pump at the end of the beamline (signal tied to MPS, controls opening/closing of pneumatic valve with pressure threshold 1e-7 mbar)
2. Current control for two beam steering coils (S1 and S2)
3. Beam Viewer position control and camera readout
4. Solenoid current (Provision to exclude a specified range of current setting)
5. Fast valve controller and pressure gauge (signal tied to MPS, closes the fast-valve within 10 ms, shuts off the beam within 50 ms and closes the pneumatic valve within 1 s if the pressure is > 1e-5 mbar)
6. Beam current monitor (signal tied to MPS, shuts off the beam within 1 sec if the current exceeds 120 nA)
7. Stepper motor control for samples carriage
8. Signal from camera looking at the sample carriage