System-II Update

12/03/2013

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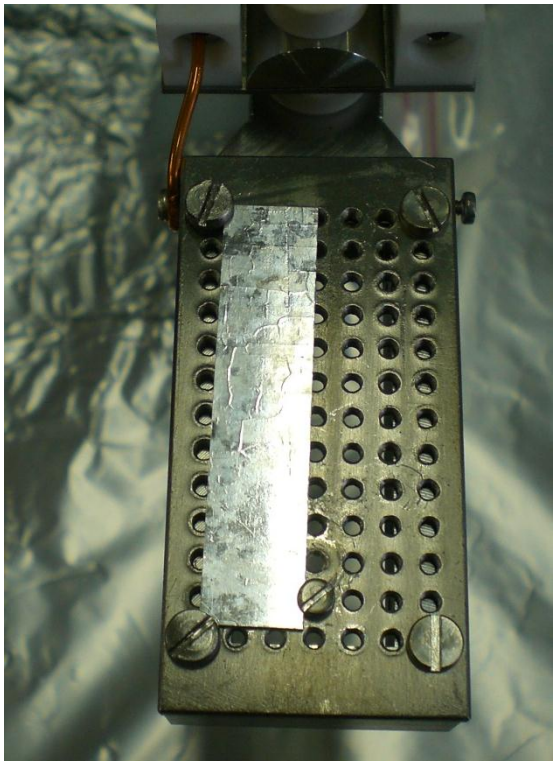
Iridium Sample

- Provided by Vladimir Vogel, DESY (presented 19/04/2012, HG2012, KEK)
- One of possible materials for the 20K cold RF-photo Gun.
- Crystal structure: FCC
- Melting point: 2739K
- Work function: 5.27eV



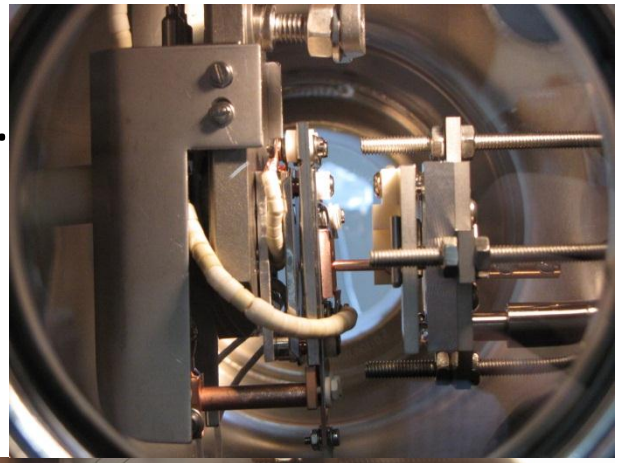
System setup

- Cathode holder: conventional one w/o temperature control
- Anode: step-motor (Capacitance measurement system can be tested)

- Tip is mounted on the holder with

longer “nose” to be close enough to the cathode. (the position of the L-plates for the old cathode holder and T-control holder are different)

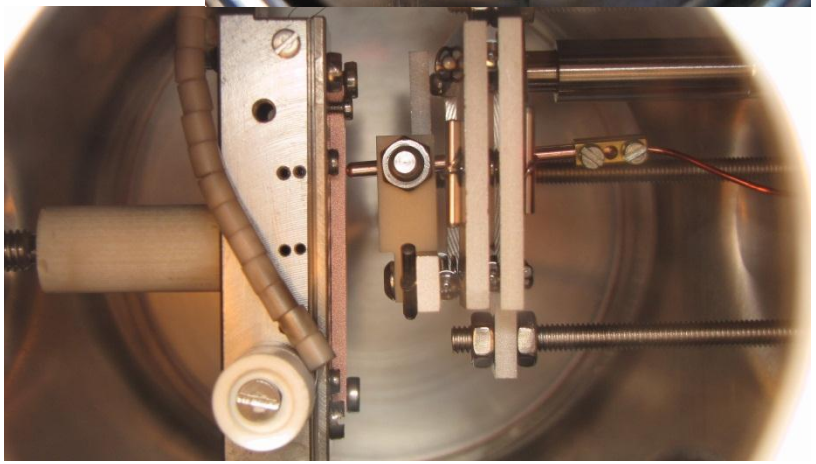
- All devices have been re-cabled.



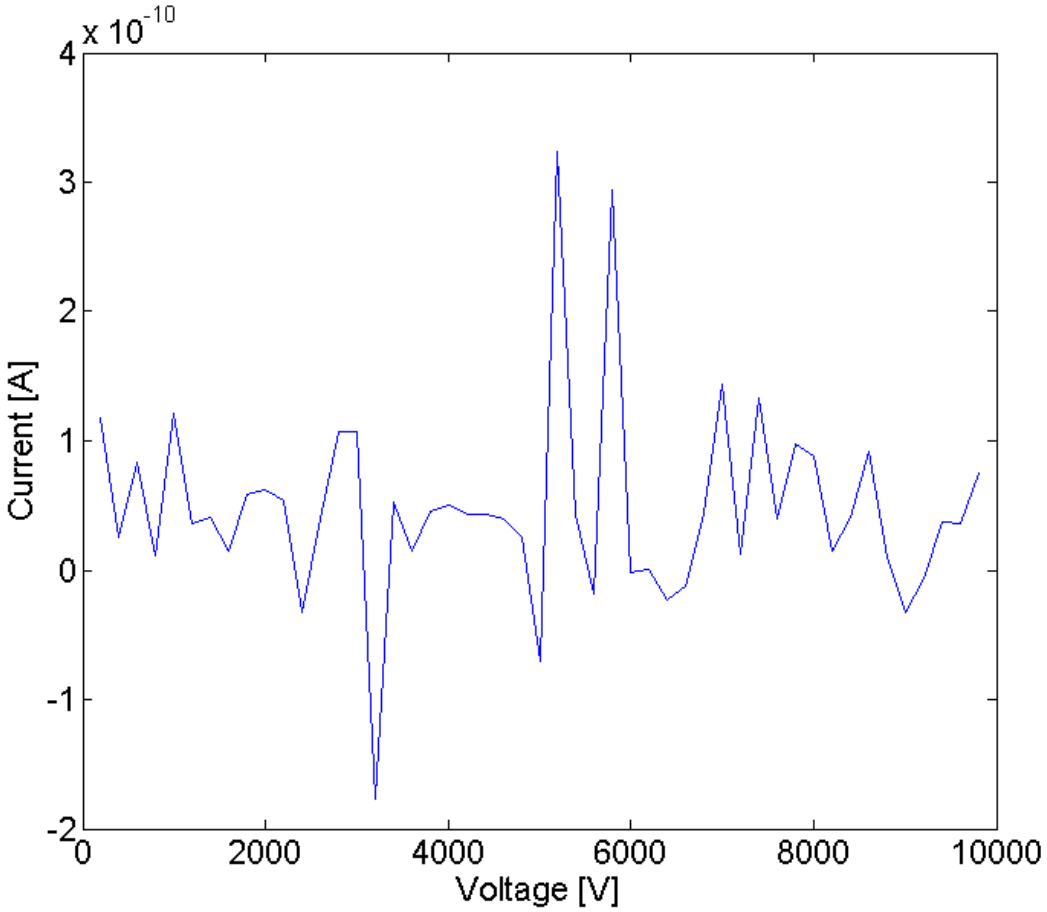
- Four test run have been done. (Two FE

Runs up to 6kV, two others up to 10kV).

- No FE, BD has been measured.
- Devices should be checked one by one



FE measurement



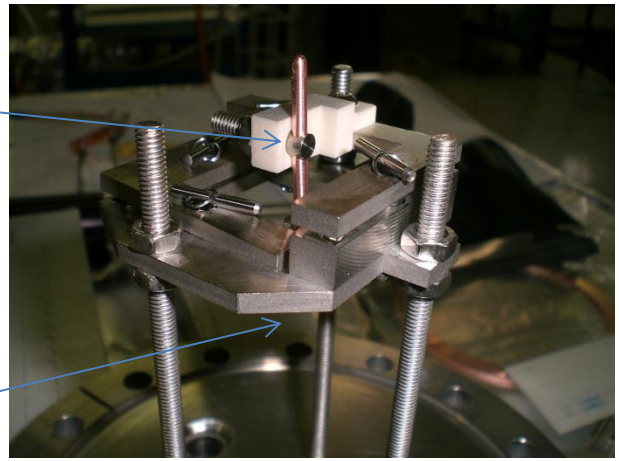
FYI

- Two filaments and a ceramic kit (nuts, insulation rods, etc) has been delivered.
- Two AlN plates have been made by CERN central workshop. Need to be cleaned and annealed.
- LN2 supply tubes have been installed. Users should pass the Cryogenic safety training L1.
- Faya Wang is going to ship his “pins” to us. Tip holder modification is required.

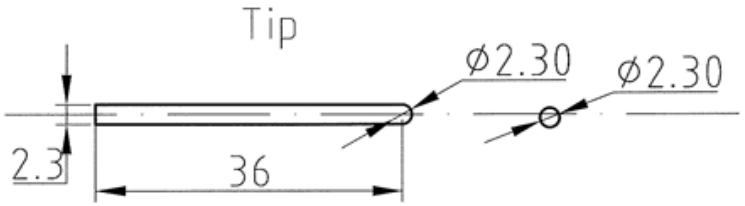
Tip holder modification

Ceramic holder
+
Screw

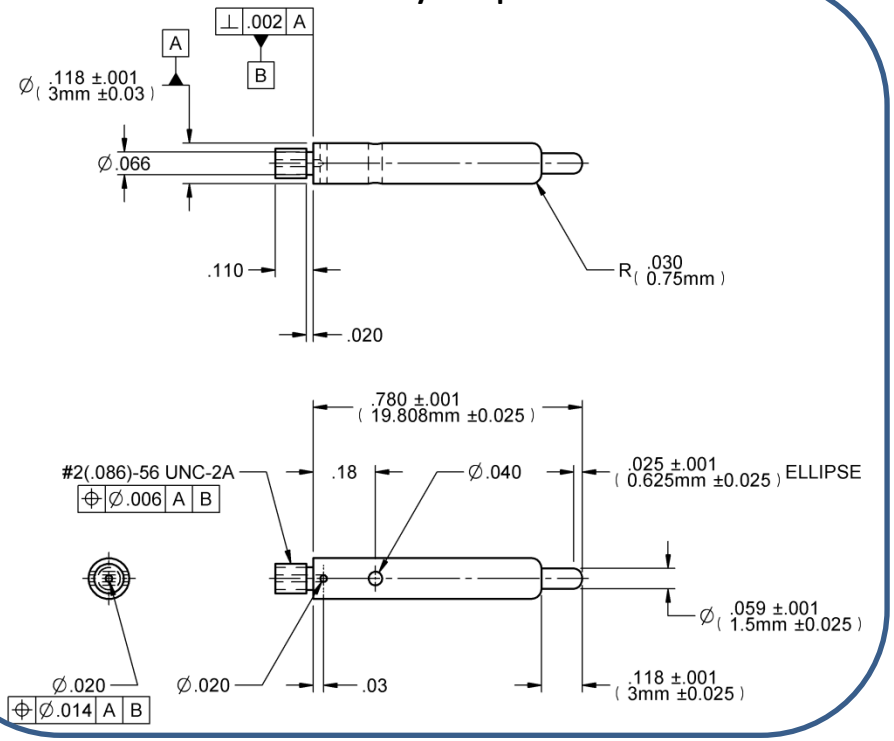
HV supply



Our tip



Faya's pin



LN2 supply lign