Surface Science Instrument (“Omicron machine”)

The instrument consists of an analysis chamber (AK), a preparation chamber (PK) and an air lock for sample introduction and discharge. After sample introduction the airlock is pumped down to 10-8 mbar. The sample is then transferred to the preparation chamber.

**Preparation chamber:**

* Thin film deposition by sputter deposition (triode system, Ar pressure around 5 10-3mbar). Deposition can be done in presence of reactive gases to produce oxides (O2, gas), nitrides (N2 gas), hydrides (H2 gas)
* Thin film cleaning by sputtering (broad beam ion gun)
* The sample is mounted on an XYZ sample holder. It can be rotated around the z-axis.
* The sample can be heated up to 600°C. No cooling

**Analysis chamber**

* Photoelectron Analyser (Omicron, EIA2000, 5 channeltrons)
* X-ray source (non monochromated, 15 kV, 30 mA): AlK, and MgK radiation
* UV-source (SPECS) – windowless source producing HeI, HeII and HeII\* radiation
* RGA
* LEED
* The sample is mounted on an XYZ sample holder. It can be rotated around the z-axis.The sample can be heated up to 600°C. No cooling