Preliminary results - tin shots

Current data from June 10 tin shot

10 kJ discharges have been achieved

The capacitor banks were charged to -8 kV

Current peaks of 110 kA have been generated in the plasma source

The pulse forming network is effectively shaping the discharge. Discharge duration is below 300 $\mu$s, making the vapor generation process an initial condition for the ms-scale condensation process. Current reversal is entirely suppressed for the safe operation of the Ignitron switch and high voltage capacitors.
Pressure data

A 50 Torr viscous front is first generated in the vacuum chamber and measured by high frequency transducers. Electrical noise from the discharge current saturates the sensor during the first 300 µs.

Slow response sensors monitor the last stage of the condensation process and the presence of residual non condensable gases.

Reducing the presence of insulating plastics in the plasma source decreased the amount of contaminating residual gases.
Residual gases analysis

The chamber is heated and pumped over night to eliminate the presence of water vapor. Shots are performed in a base pressure of about 50 mTorr of Argon to initiate the discharge.

Residual gases - carbon, hydrogen and fluorine are available from dissociation of Teflon, silicon and oxygen from quartz. Stronger lines are for $\text{H}_2$, $\text{CO}_2$, $\text{CF}_4$ and $\text{SiF}_4$. 
An initial pressure of about 56 Torr has been measured in the chamber.