New Calibration Plan

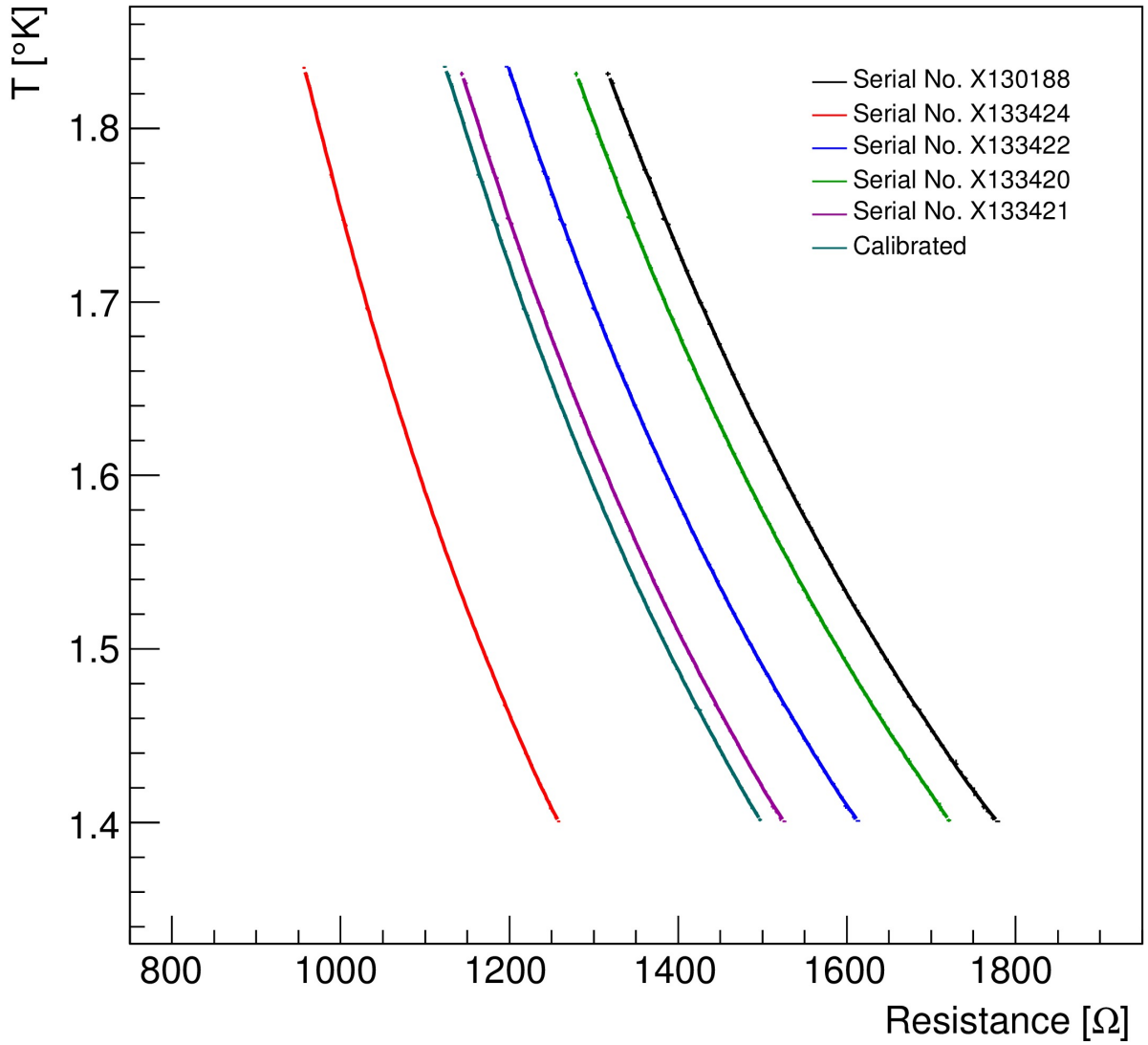
Group Meeting

03/22/19

Liliet Calero Diaz

Cooldown calibration results

- It was understood why the T data obtained from the He4 vapor pressure could not be used.
- Calibration curves are obtained just with the T data from the reference sensor.



Calibration Plan

- Design a cryogenic temperature calibration facility

Pros:

- No need to wait for a cooldown to run the sensors calibration.

Cons:

- Inserts and cryo have to be designed for this particular dewar and include the pump lines and microwaves.

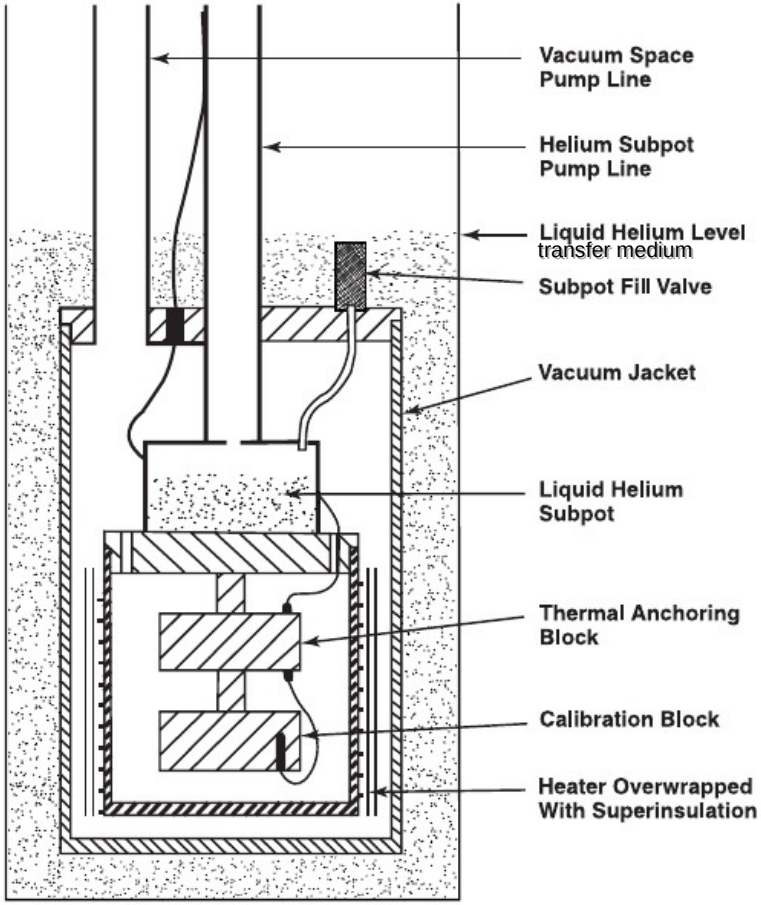
Calibration Plan

The sensors are mounted in a gold-plated OFHC copper calibration block which provides an isothermal environment.

The electrical leads from the sensors are soldered to contacts thermally anchored to a second gold-plated OFHC copper block directly above the calibration block.

To obtain temperatures below 4.2 K, the subpot is filled with liquid helium and vacuum pumped.

As the vapor pressure of the helium liquid in the subpot decreases, the temperature decreases.



Calibration cryostat schematic

Develop live measurement graph of T obtained from the vapor pressure and from the reference sensor to be able to establish when the equilibrium is reach out and then, collect the data.