

Desarrollo de un sistema criogénico con Neón líquido para la caracterización de superconductores

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Trabajo realizado en la Universidad de Southampton, UK

Neon Liquefier System

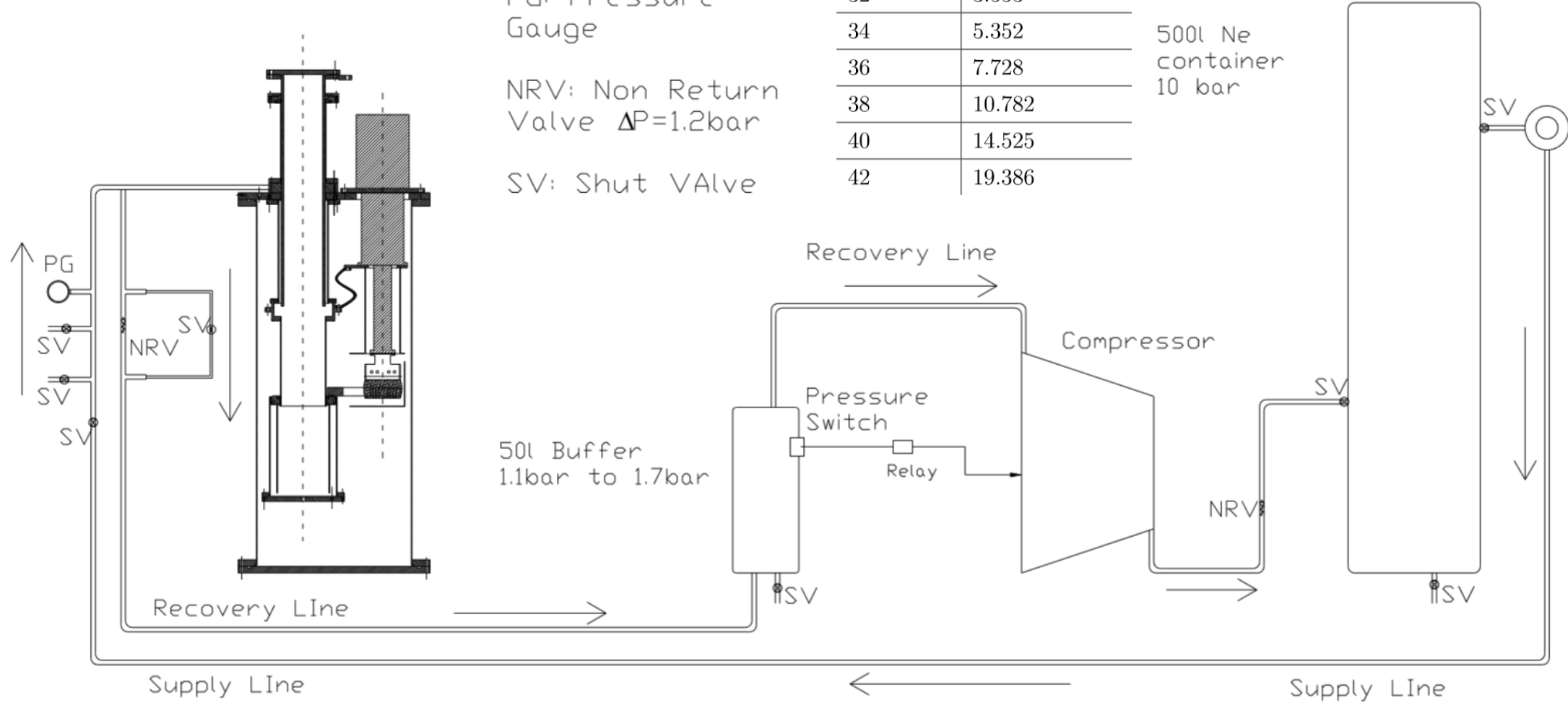
Temp. K	Pressure atm
25	0.511
27.09	1.013
28	1.322
30	2.238
32	3.553
34	5.352
36	7.728
38	10.782
40	14.525
42	19.386

Expansion liquid → gas: 1600 times

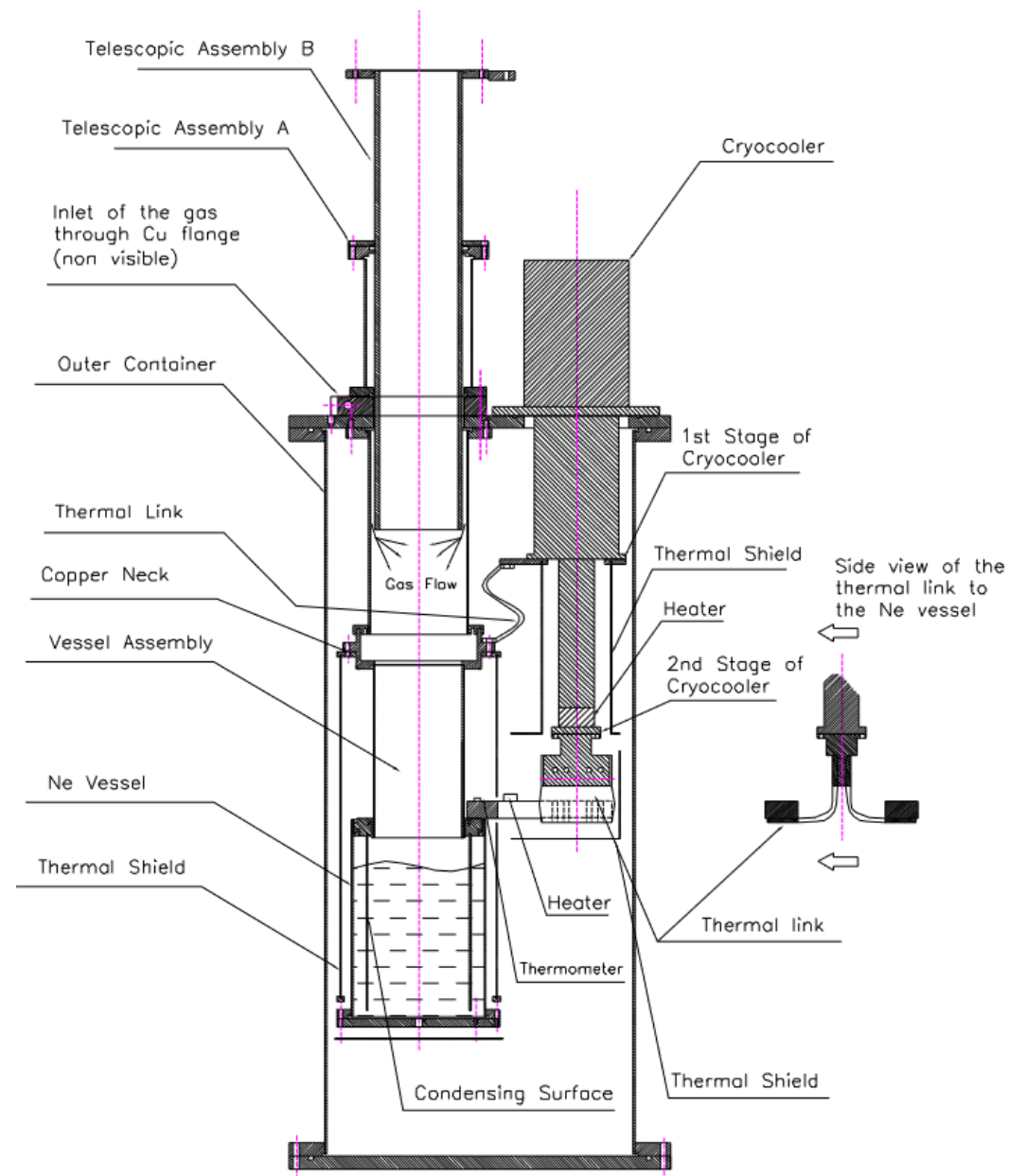
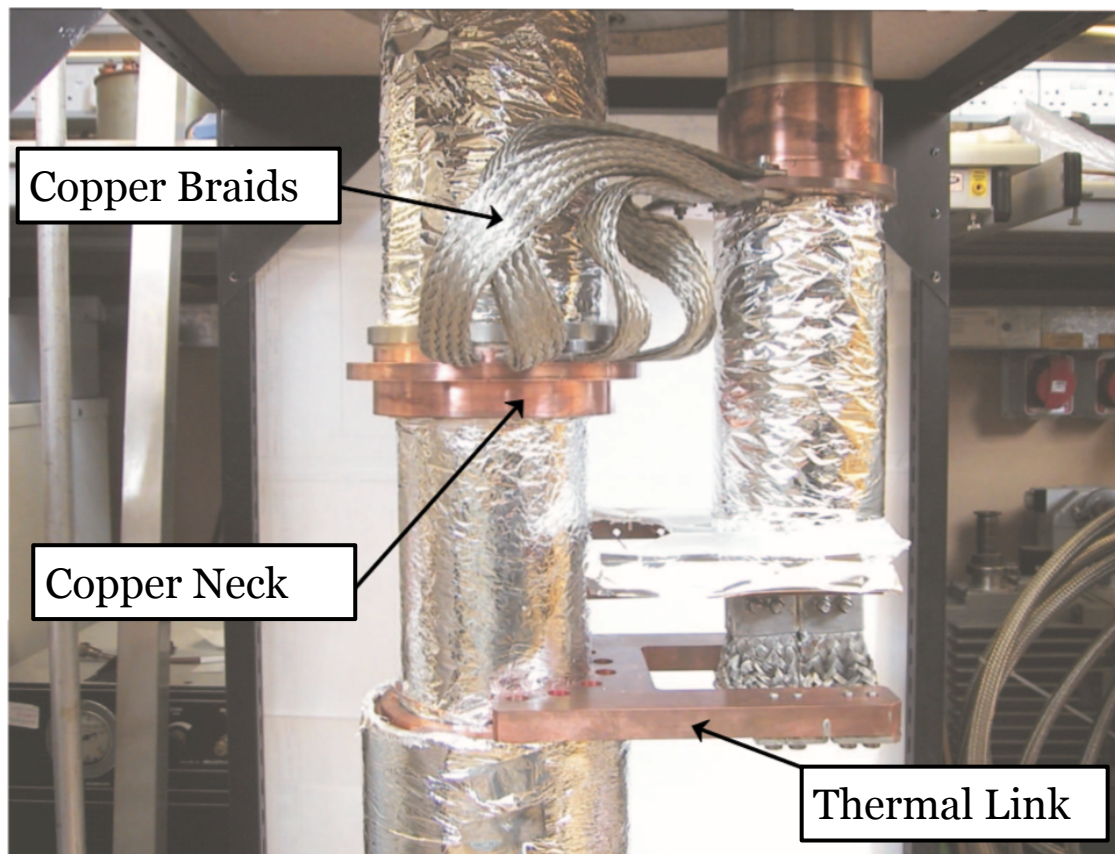
PG: Pressure Gauge

NRV: Non Return Valve $\Delta P=1.2\text{bar}$

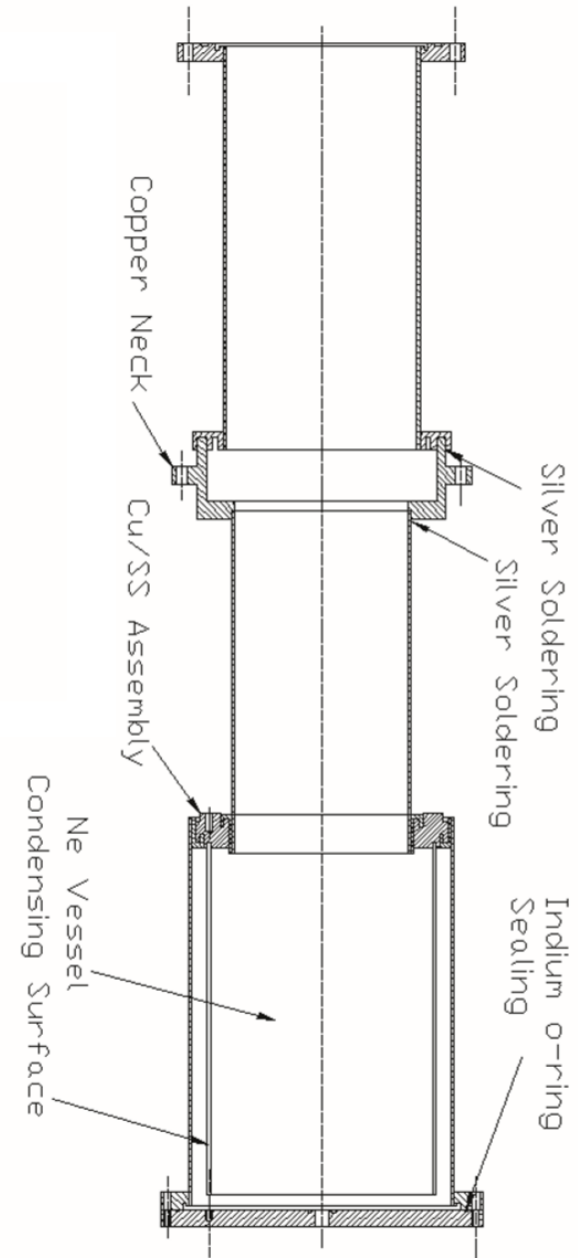
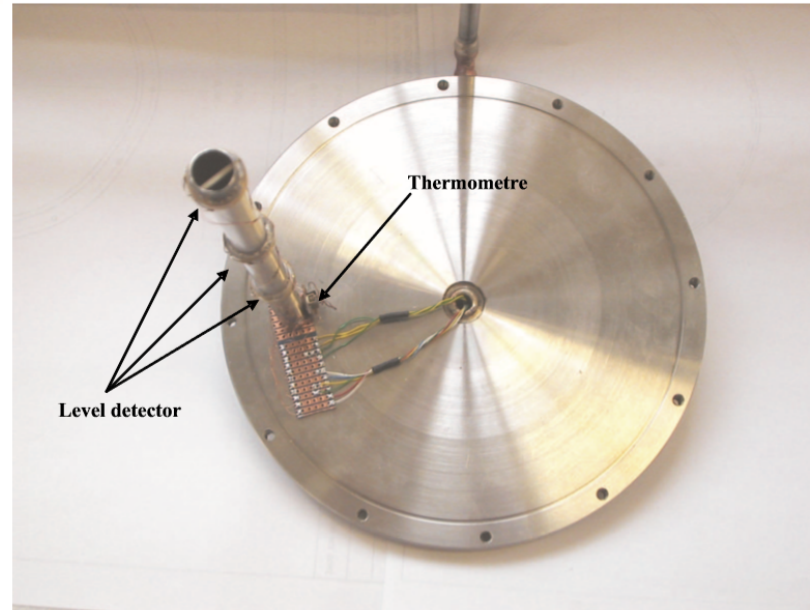
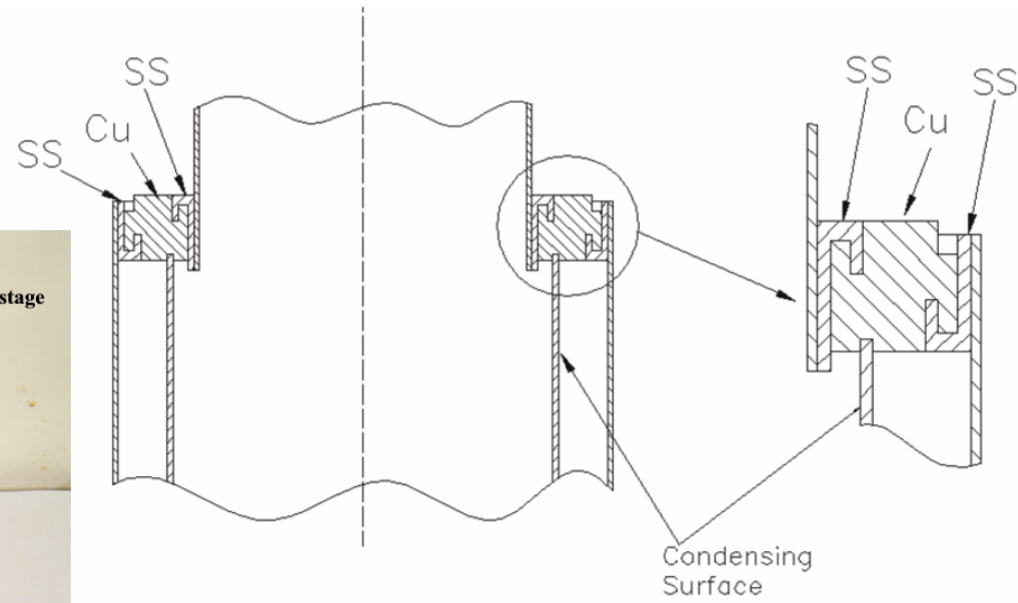
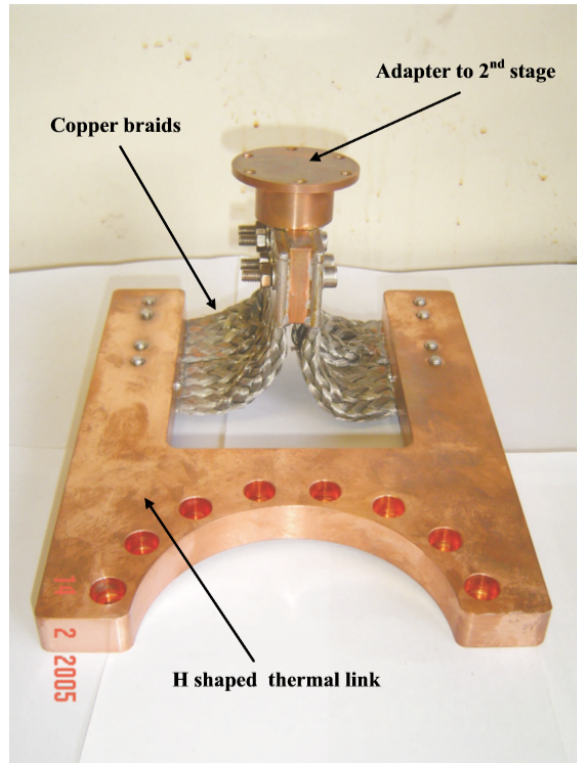
SV: Shut Valve



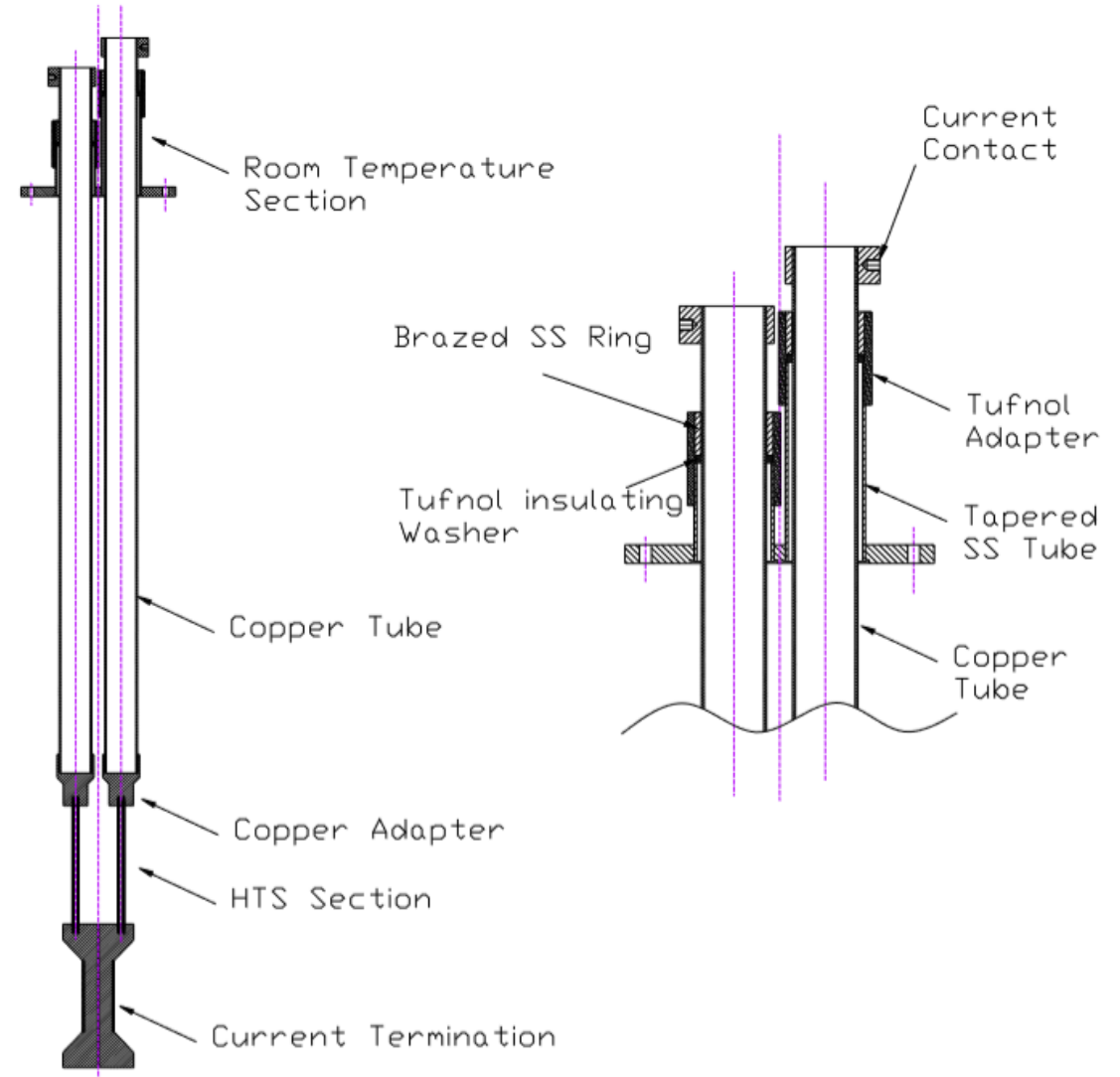
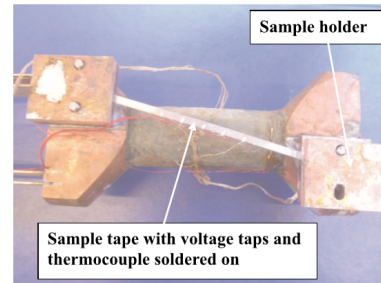
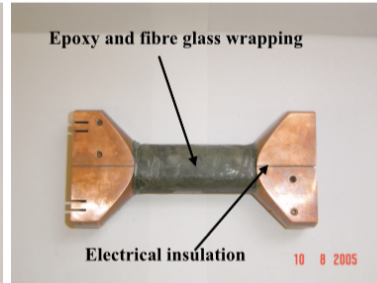
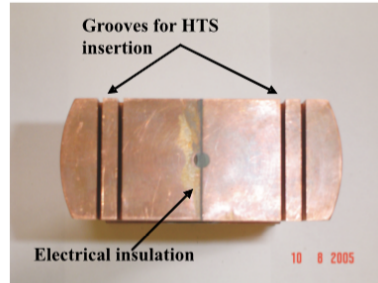
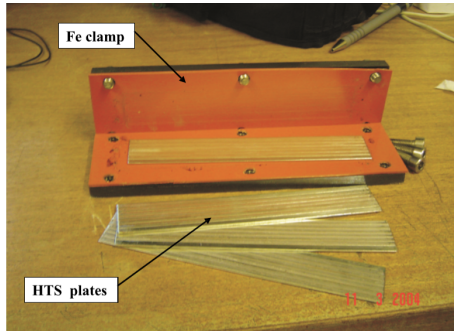
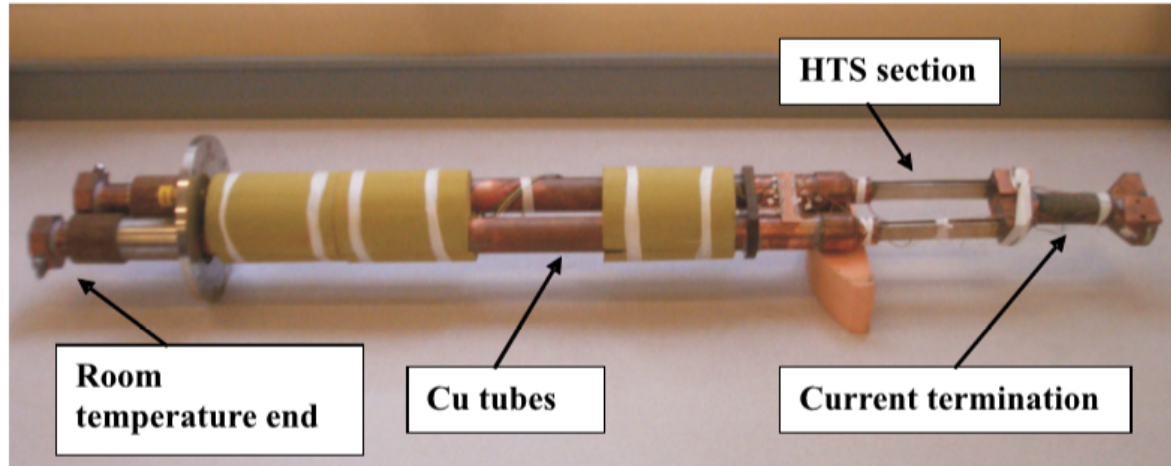
Neon Cryostat



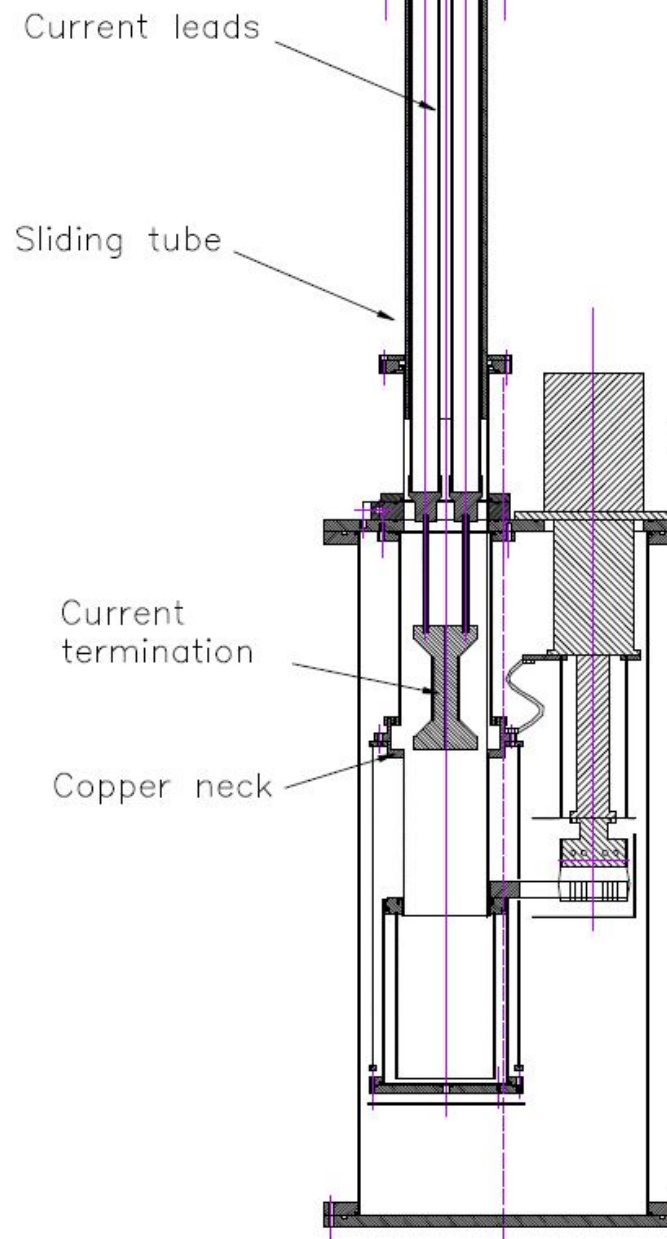
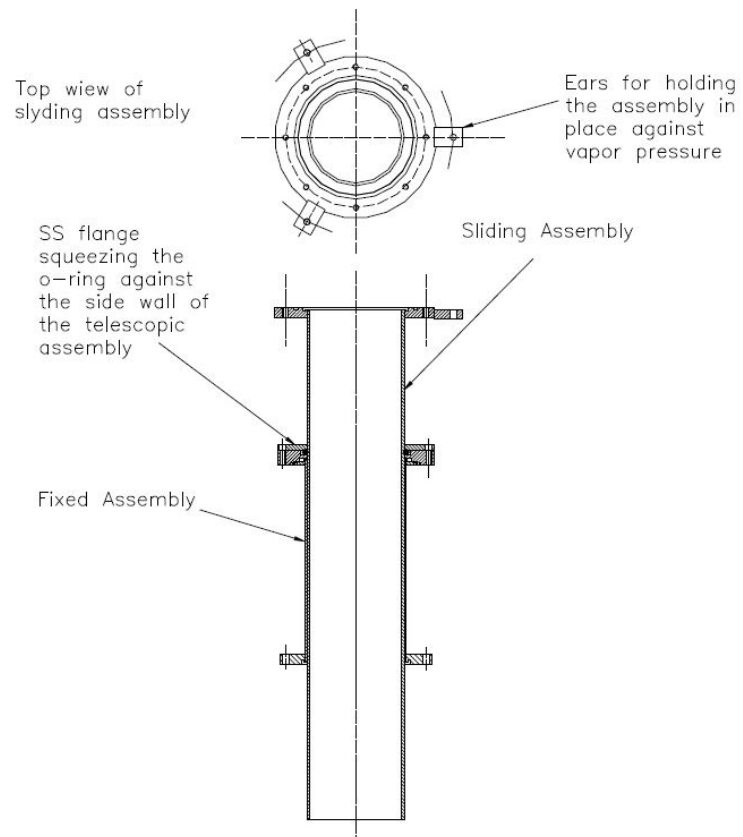
Liquid Chamber



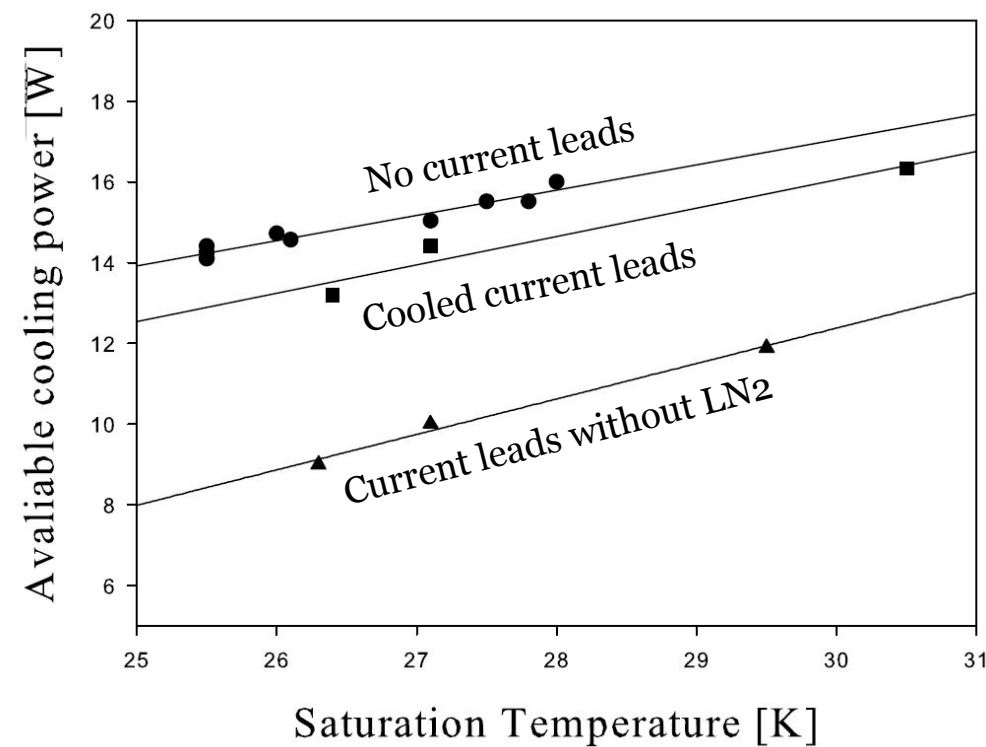
Current Leads



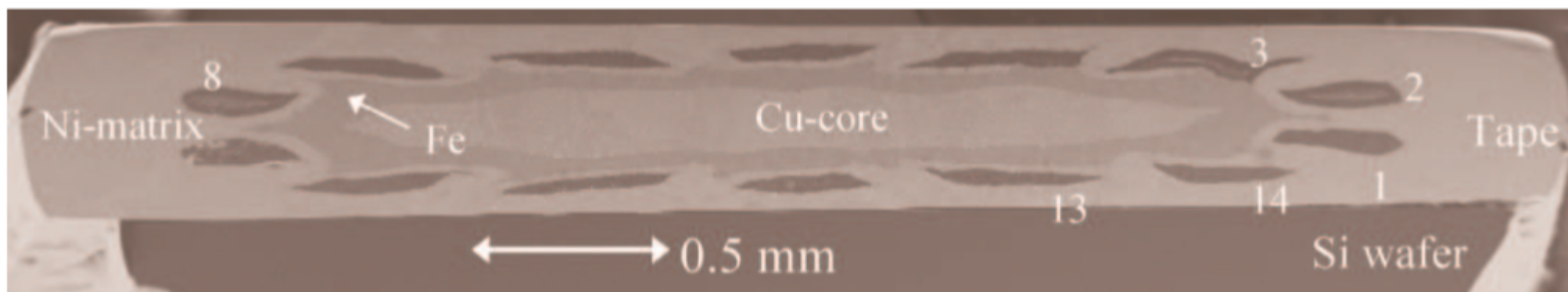
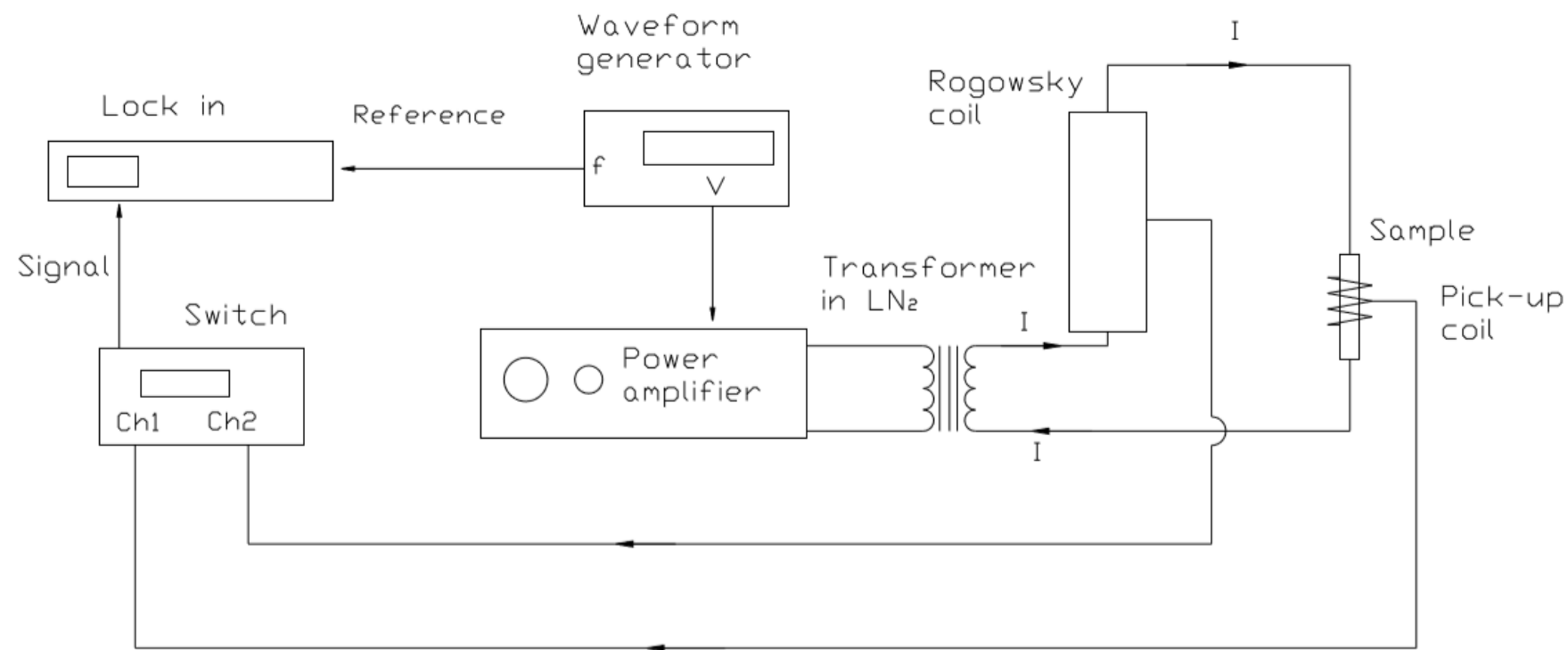
Telescopic Neck



Cryocooler

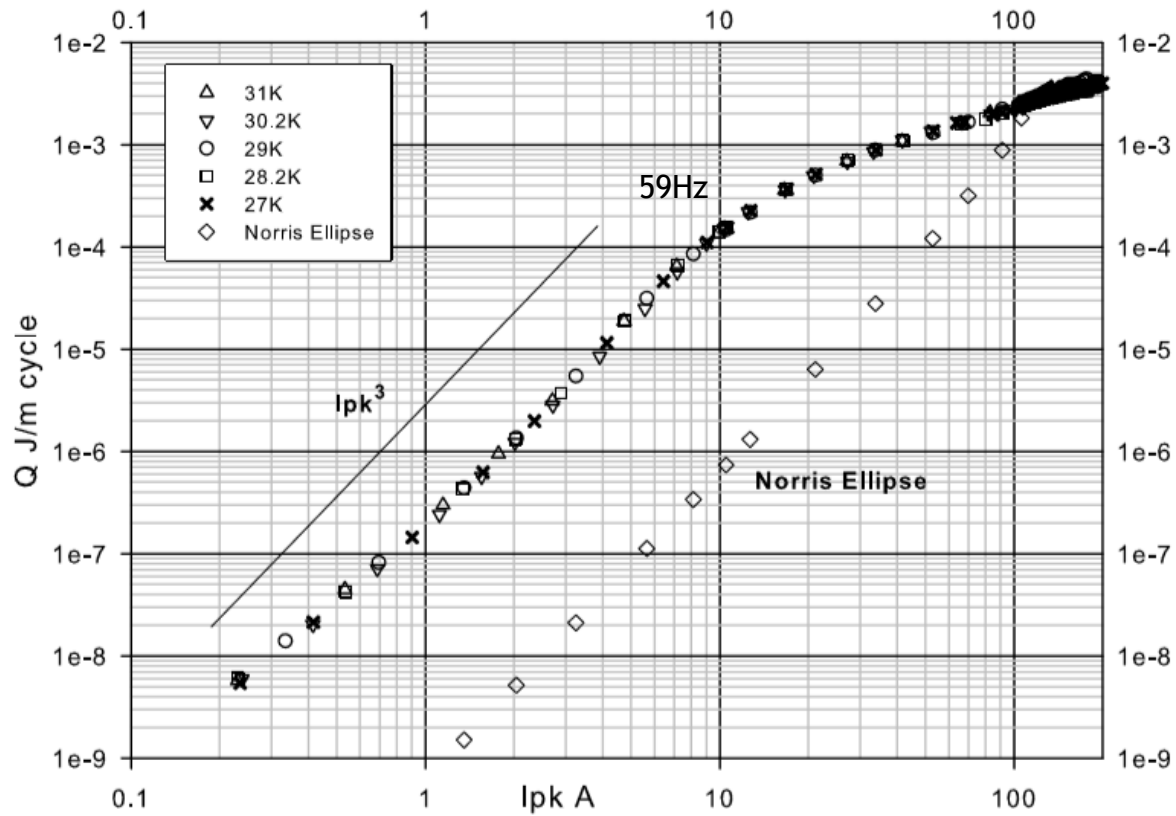


Transport Losses

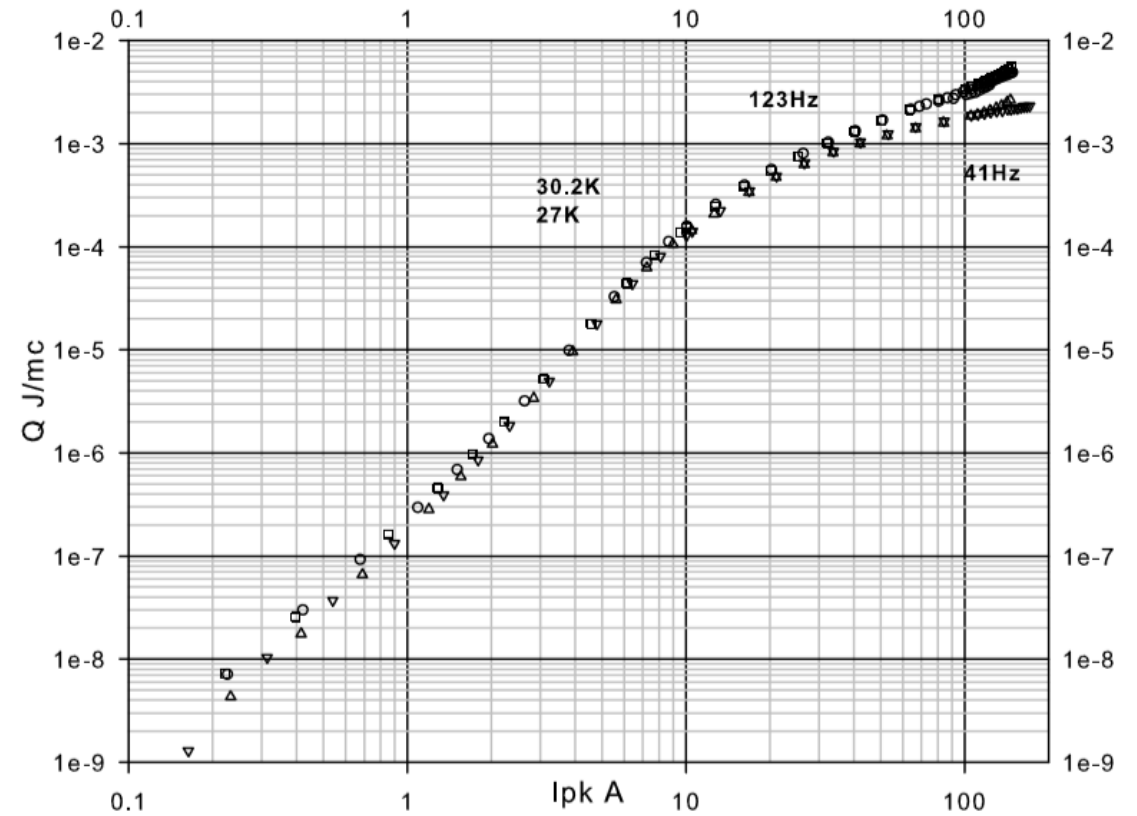


Transport Losses

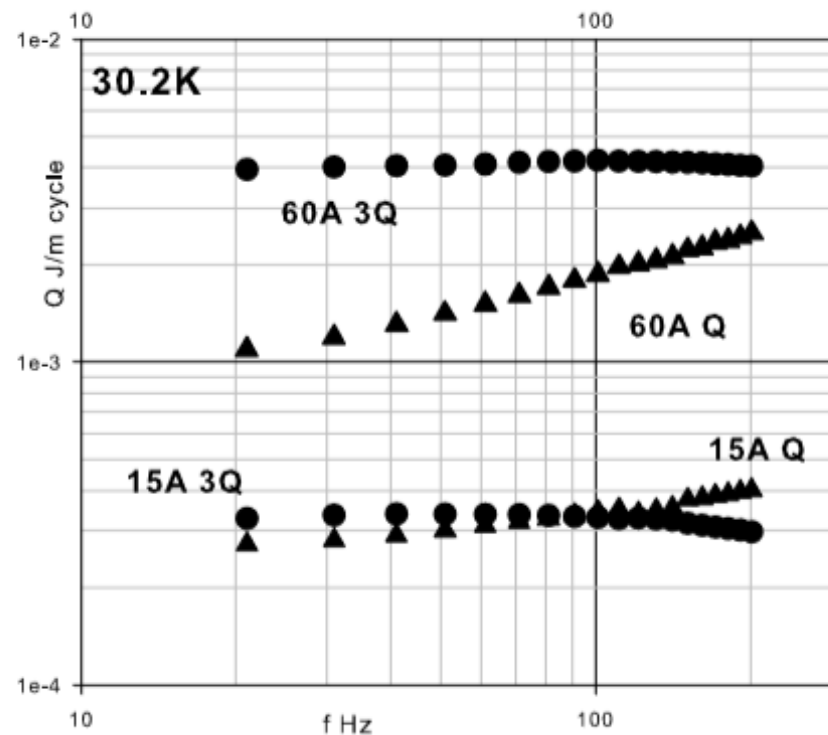
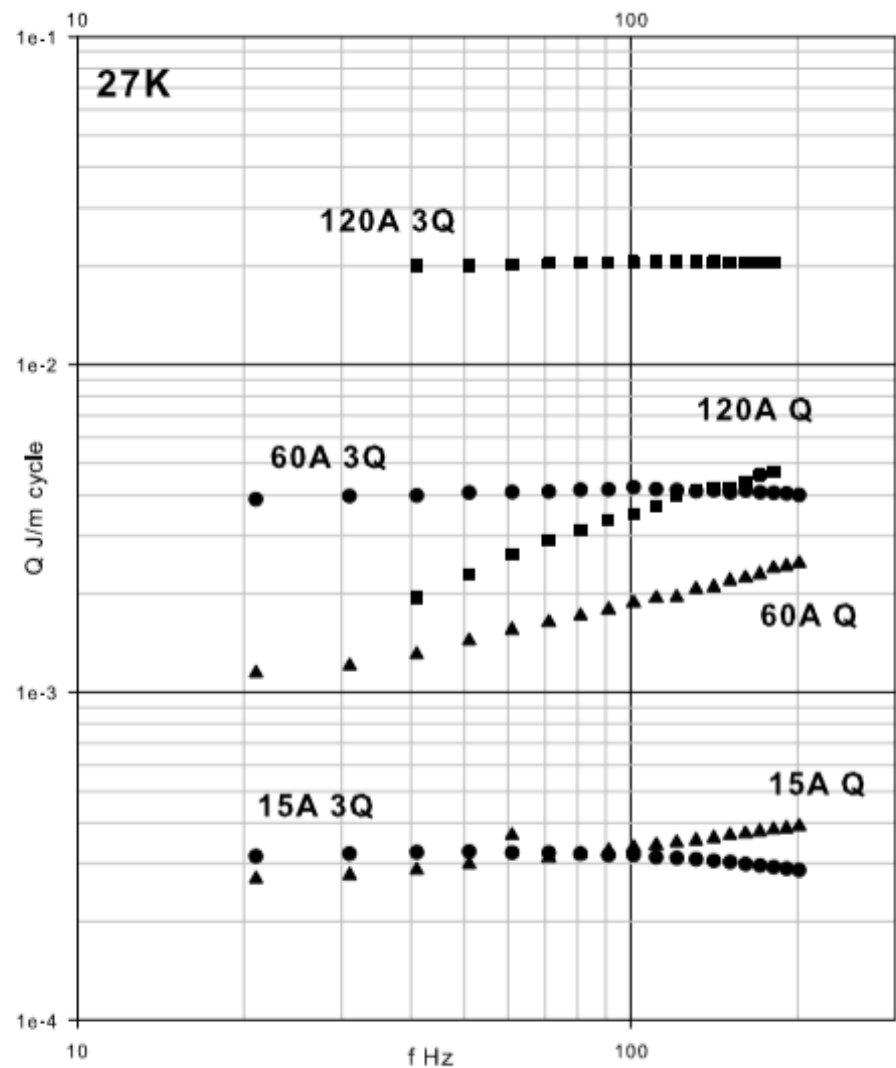
Fixed Frequency



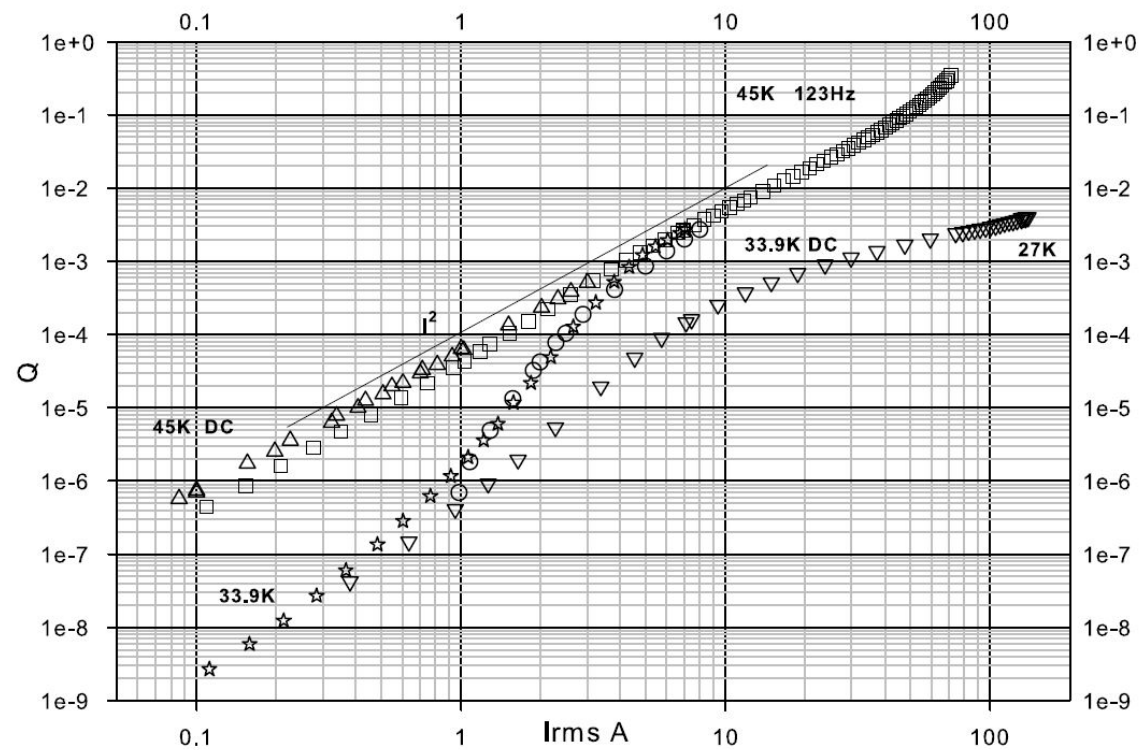
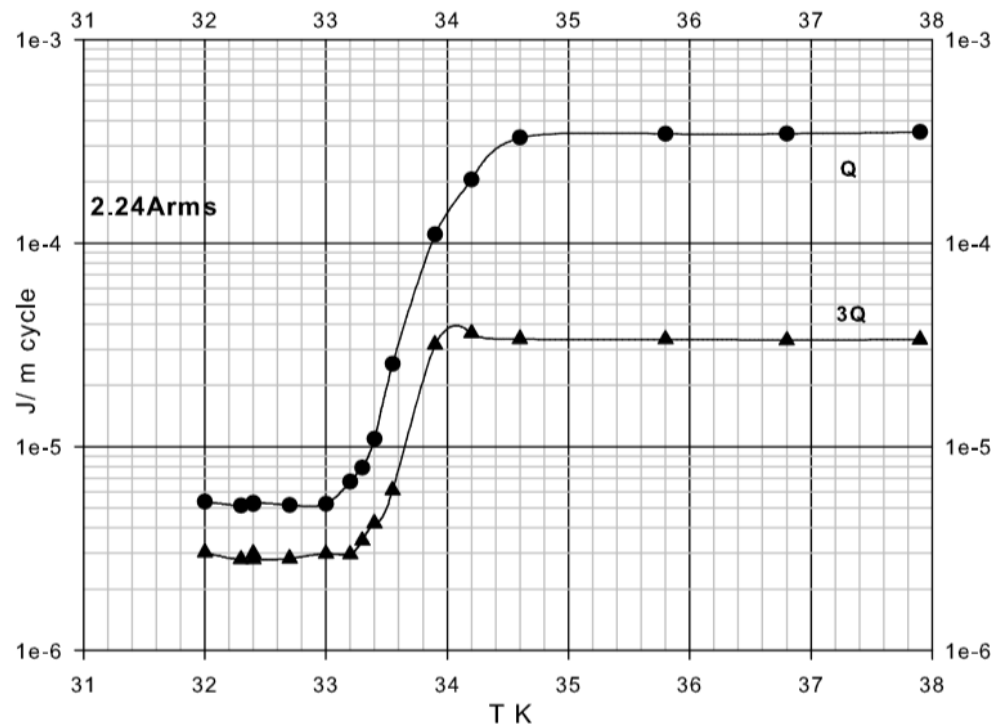
Variable Frequency



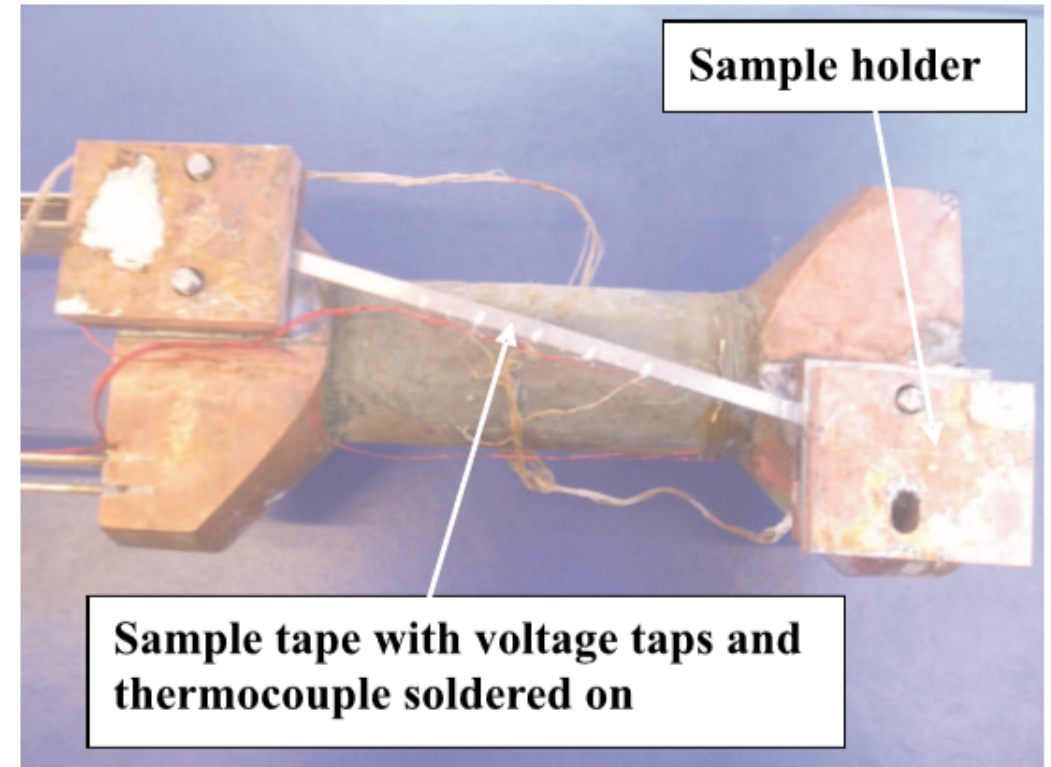
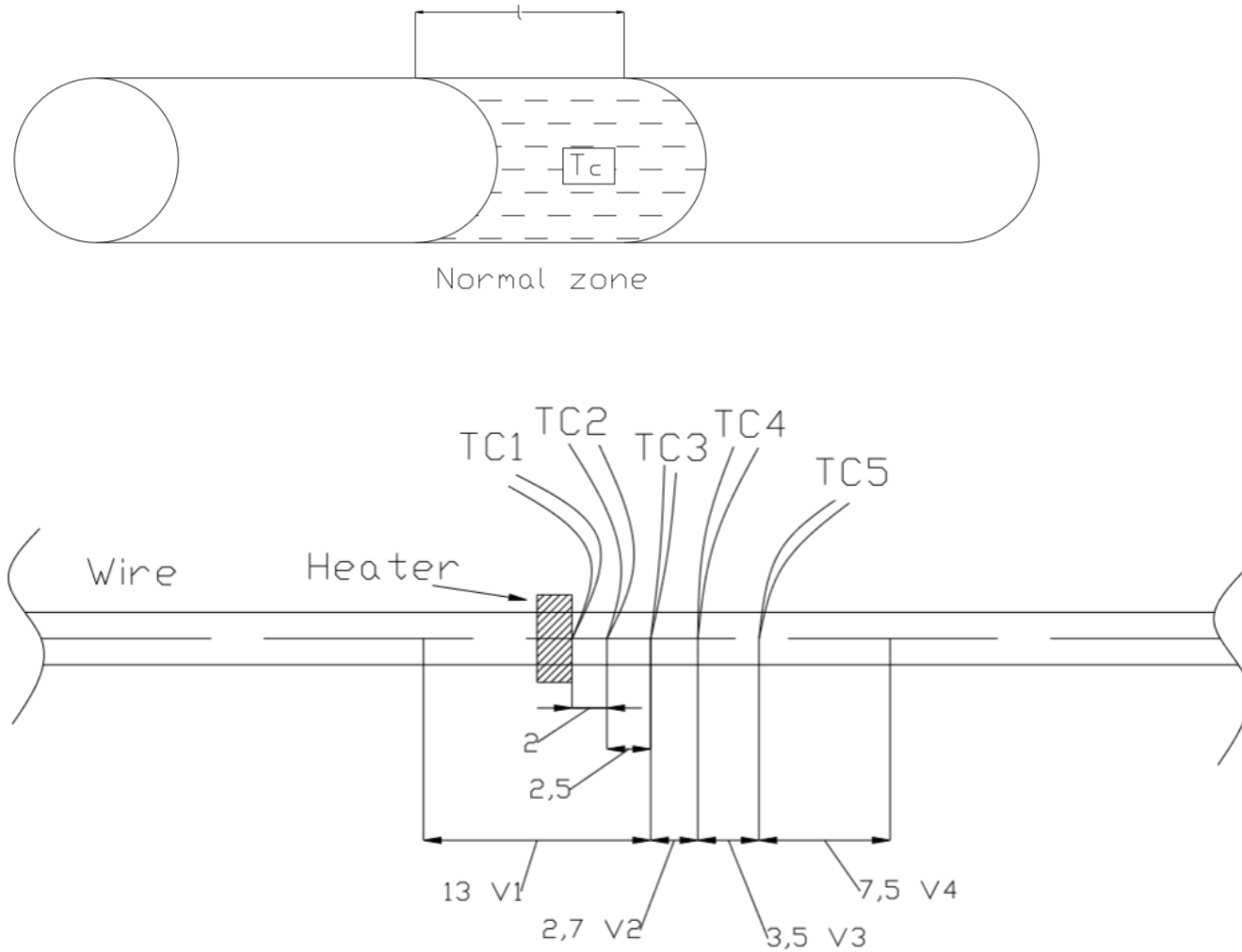
Transport Losses 3rd harmonic



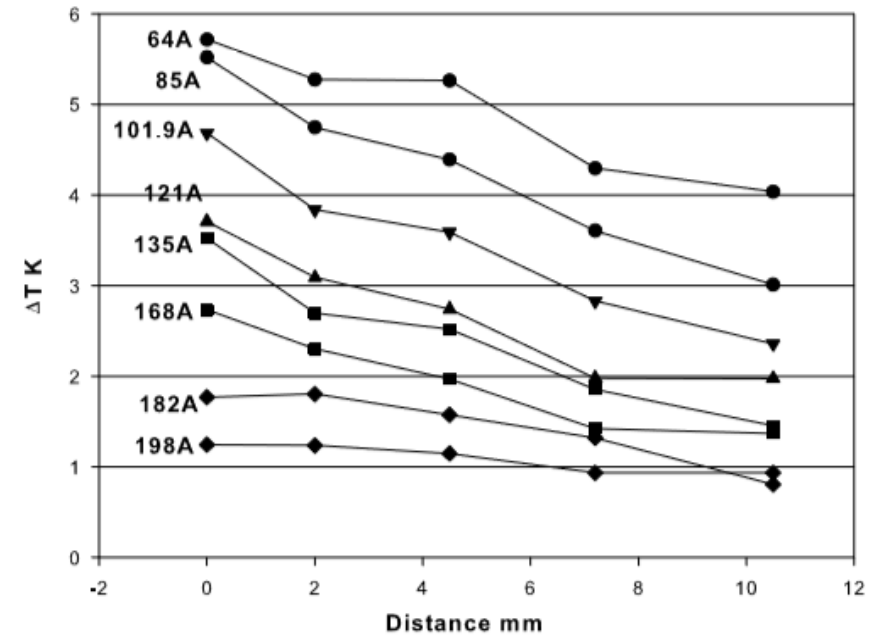
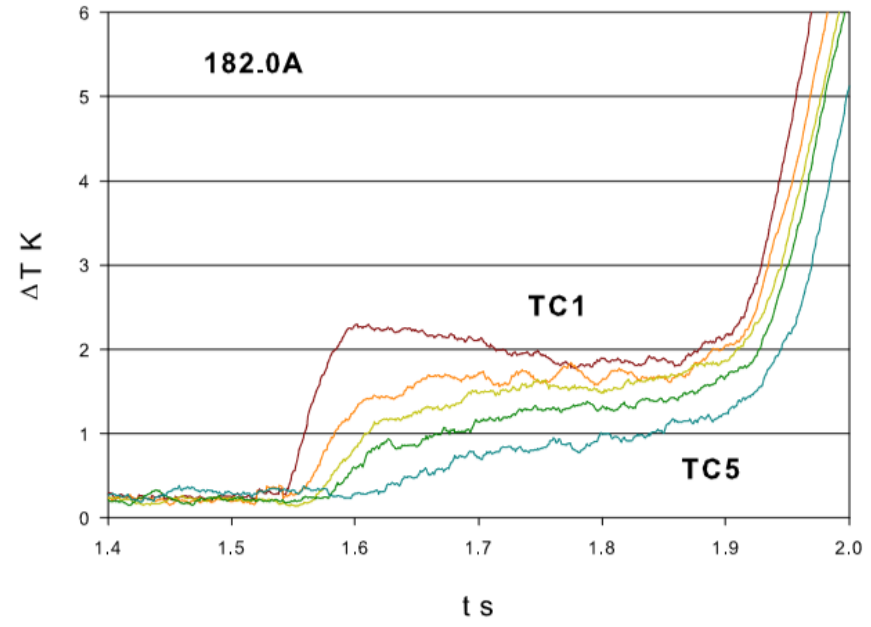
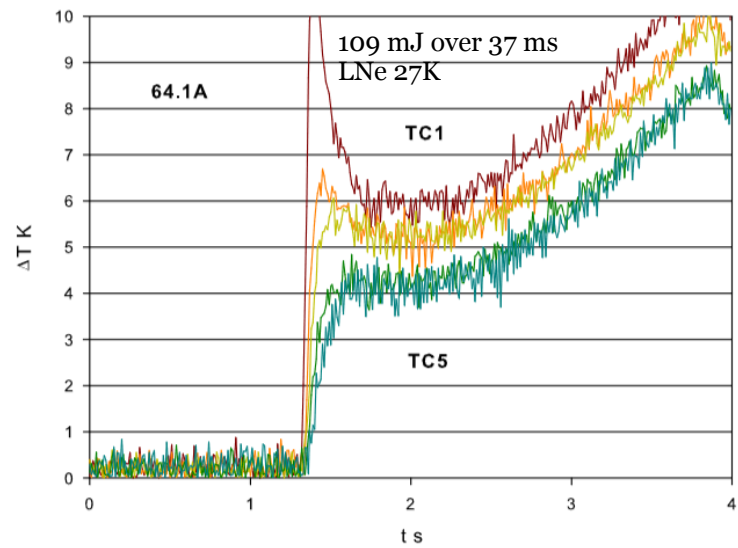
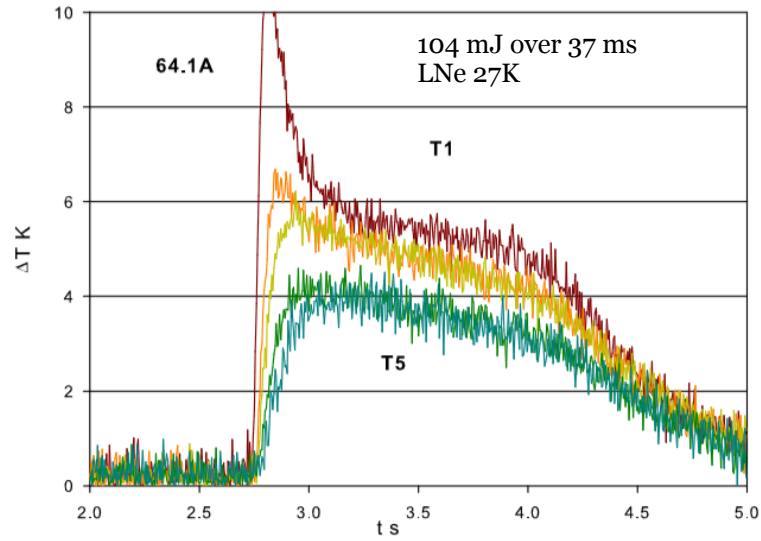
Transport Losses 3rd harmonic



Thermal stability of conductors

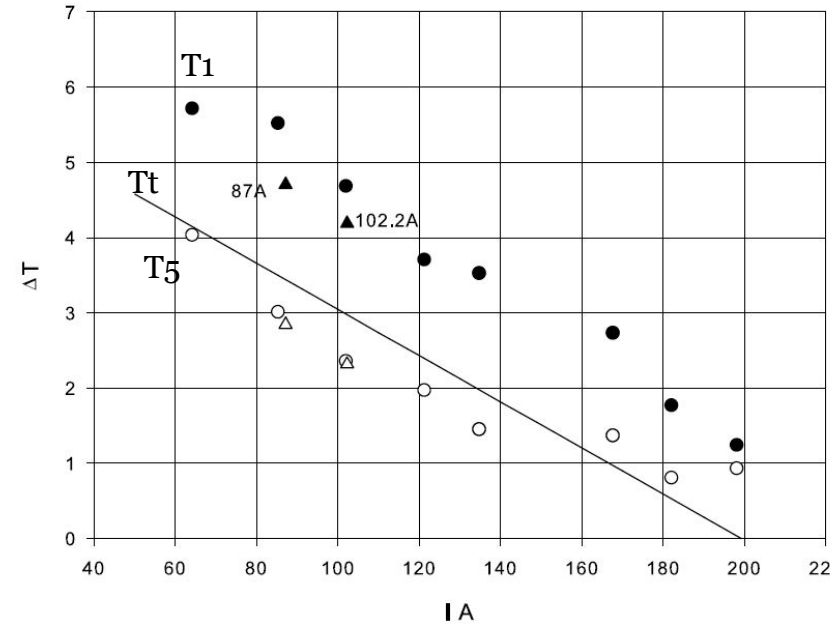


Stability Measurements

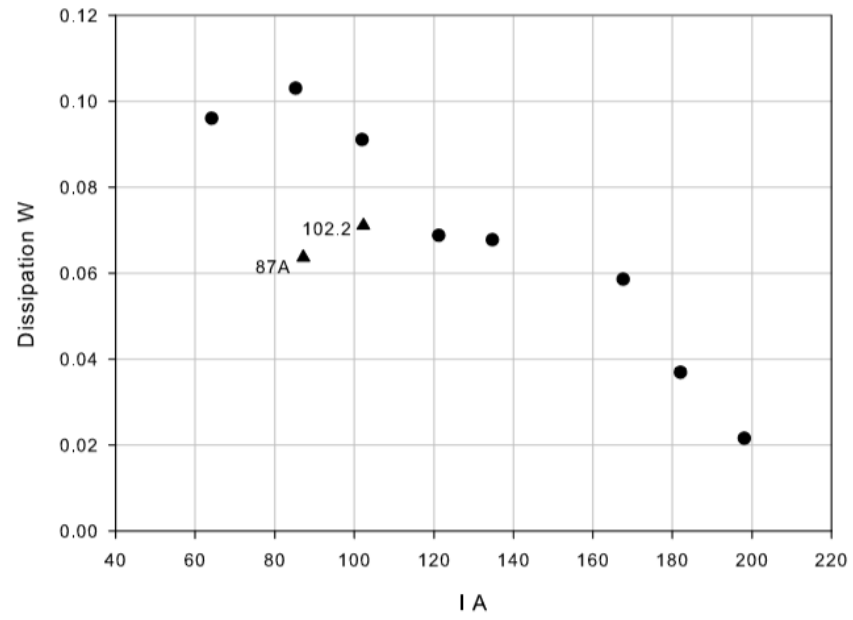


Stability Measurements

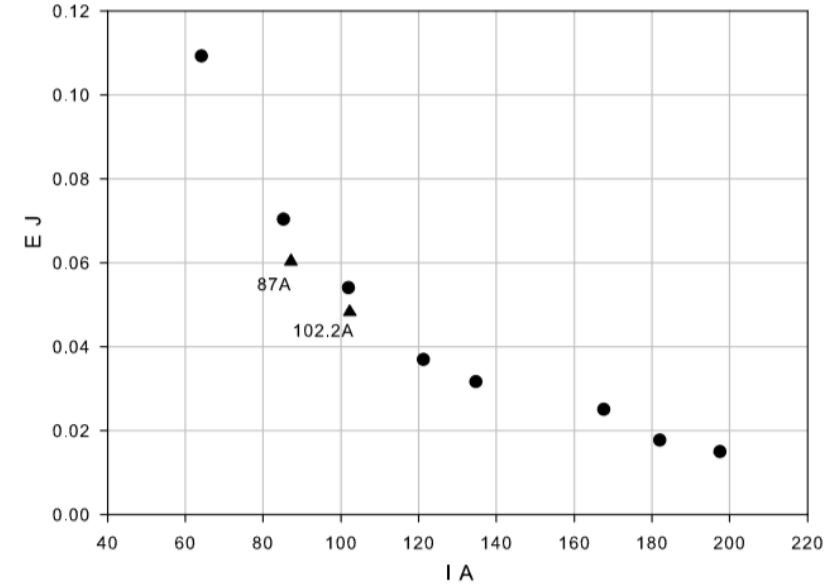
Transition temperature



Dissipation



Minimum Quench Energy



iFIN!