

RRR measurement setup at CERN

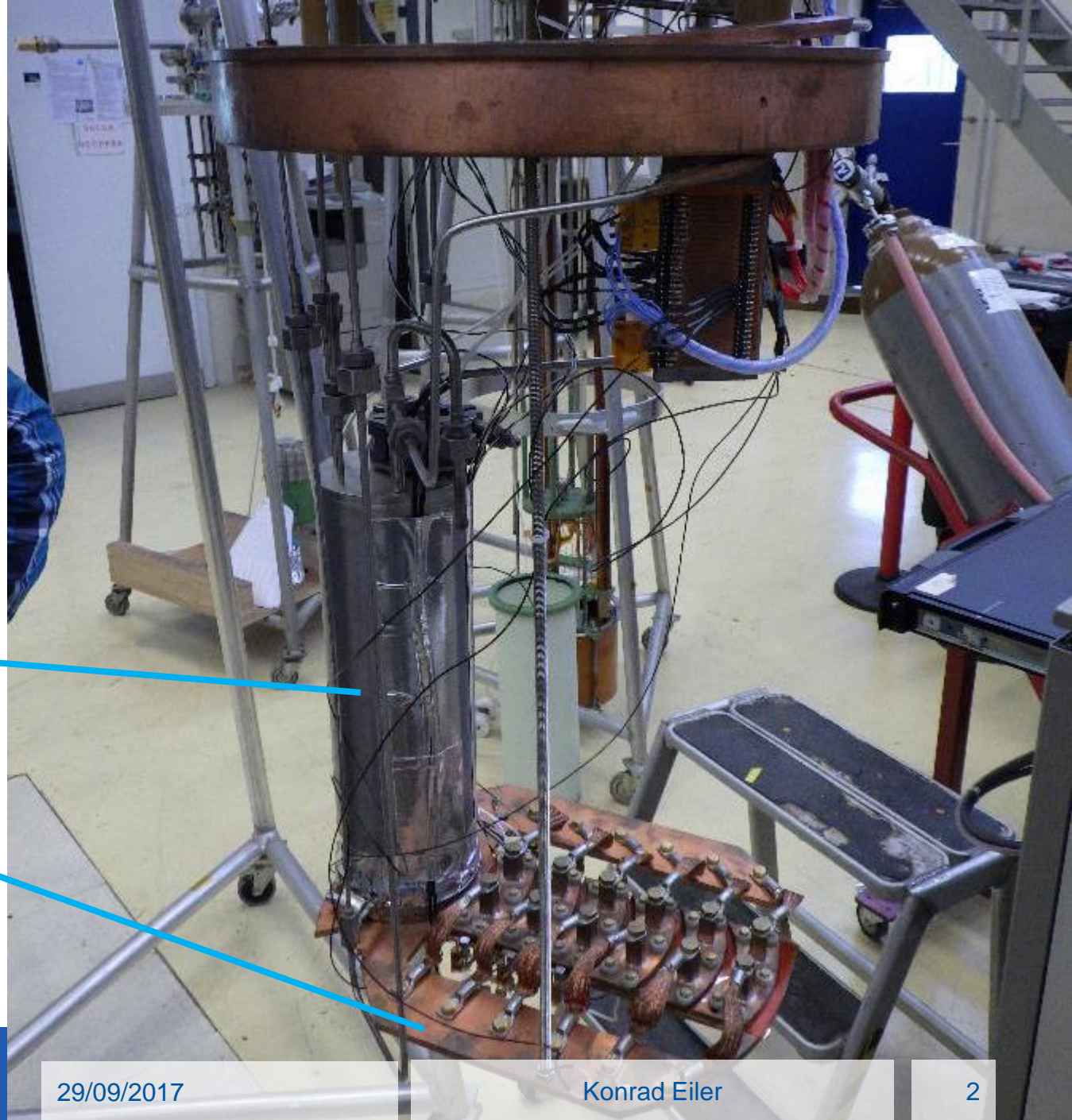
Konrad Eiler

Overview

Samples are in vacuum,
cooled by through LHe
and copper plate

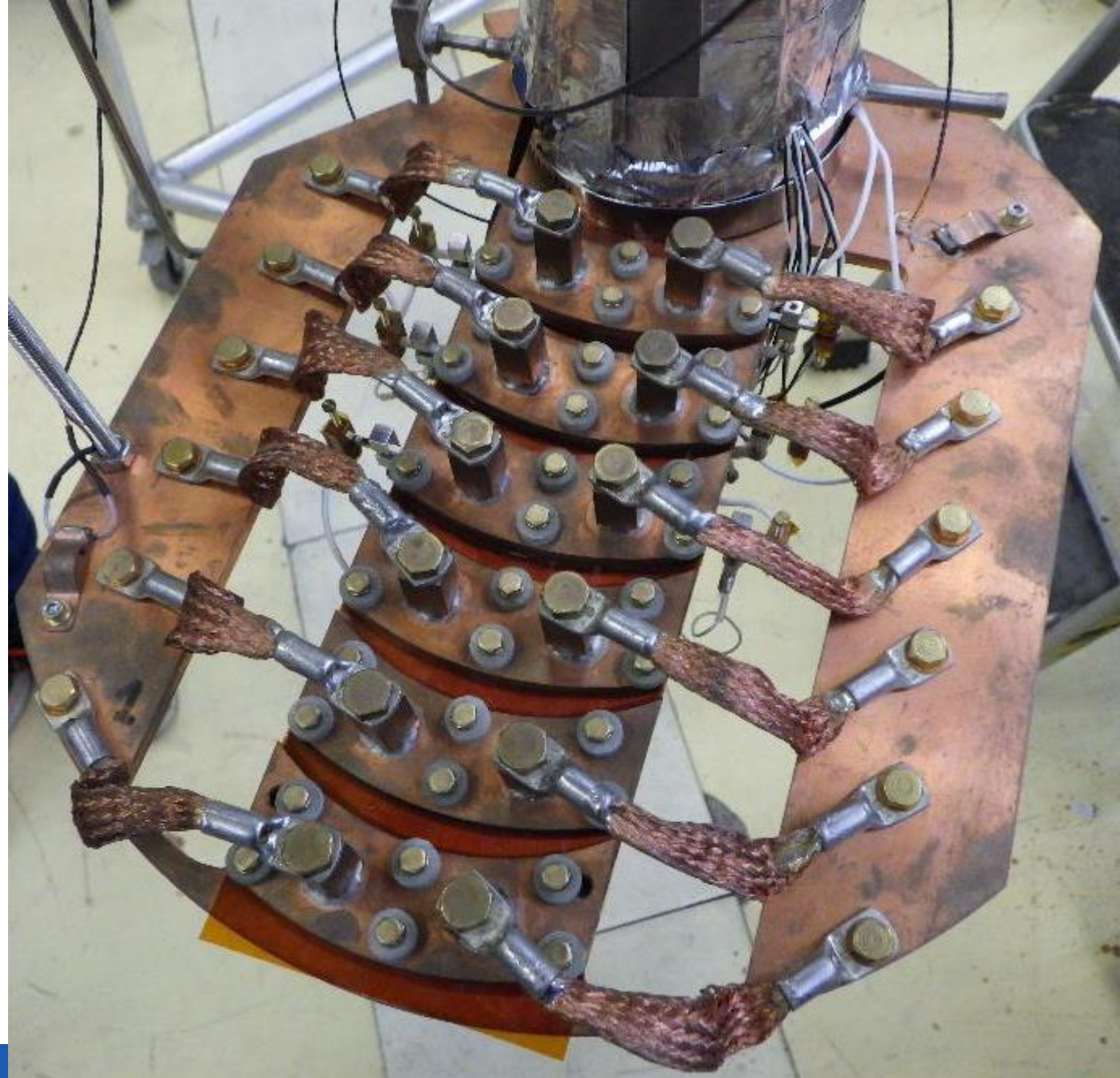
LHe supply

Cold mass
(Cu plate)
as sample holder

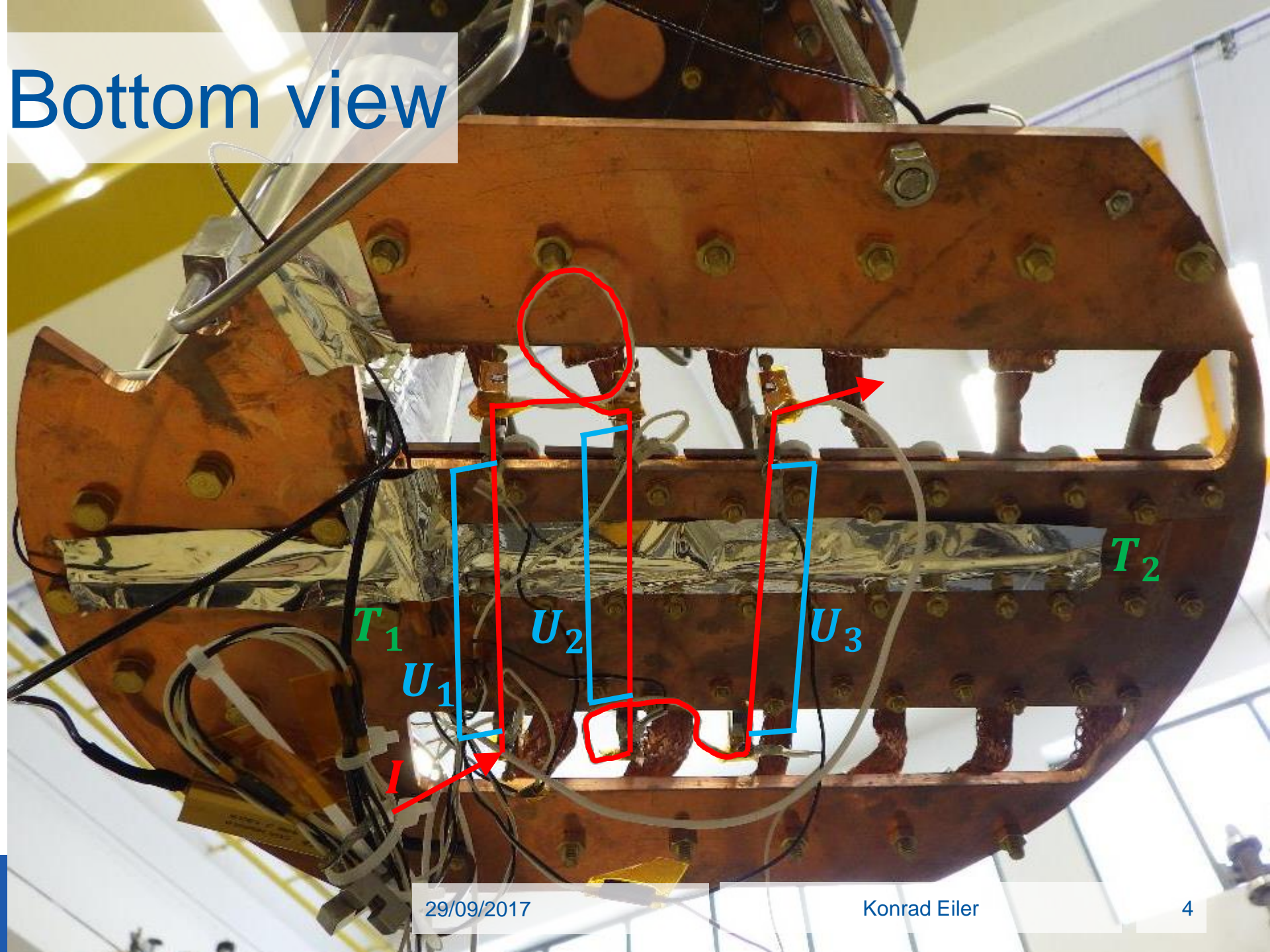


Top view

This setup allows us to measure both straight as well as bent samples (e.g. cut from cavities)



Bottom view





Setup data

- Sample size: 120 mm x 2 mm x 2 mm
- Max 6 samples in setup
- Series connection, current: 5 A
- 2 Temperature sensors type TVO
- Kapton foil for isolation
- Acquisition of $U_i(T)$ between 6 and 20 K without heating

Results

$$RRR = \frac{\rho(300 \text{ K})}{\rho(4.2 \text{ K})}$$

$\rho(T)$ at cold
exponential fit
 $\rho(T)$ at 300 K

