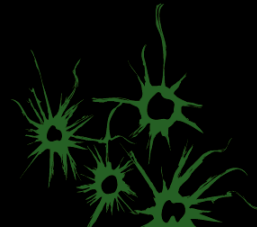


Recap of experimental facilities  
for ARIES at UTwente



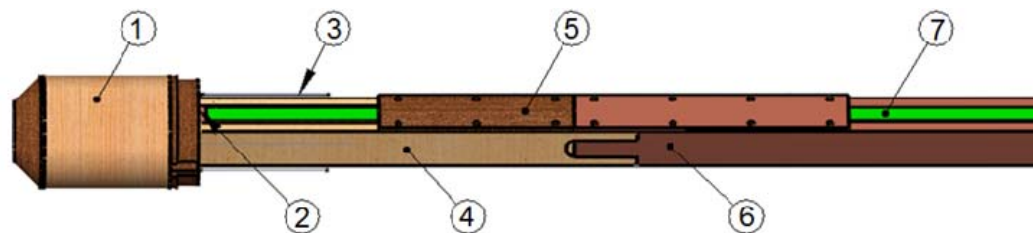
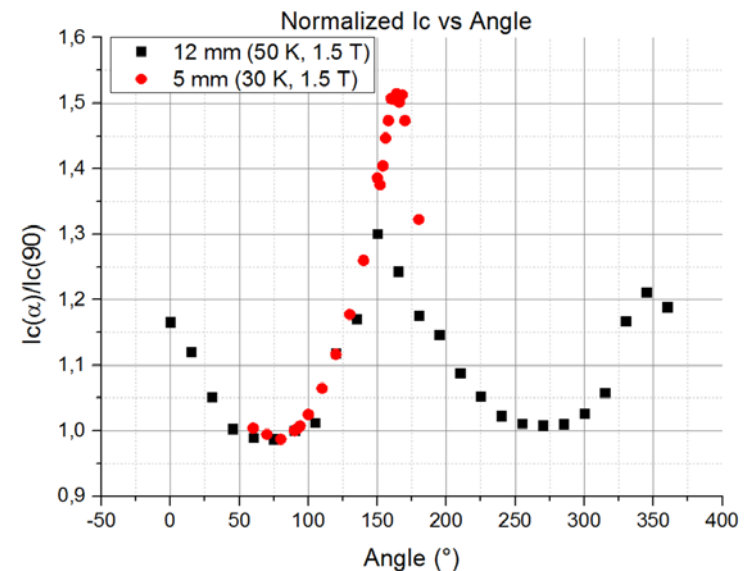
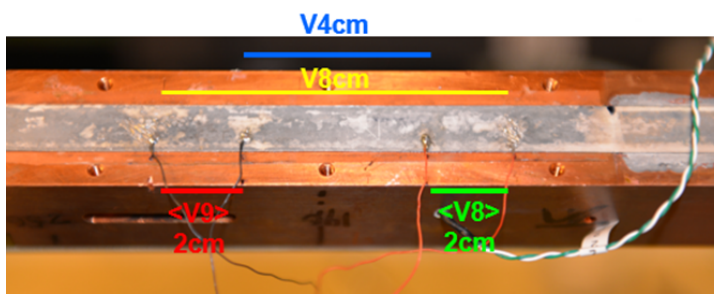
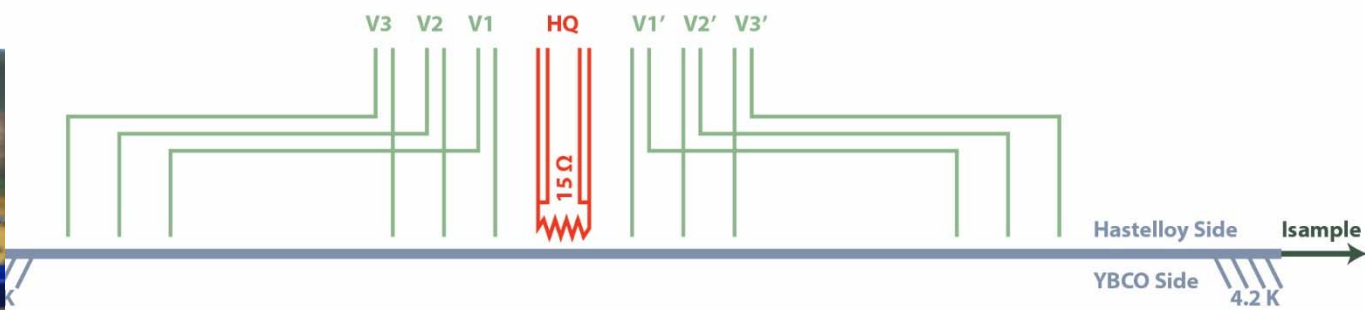


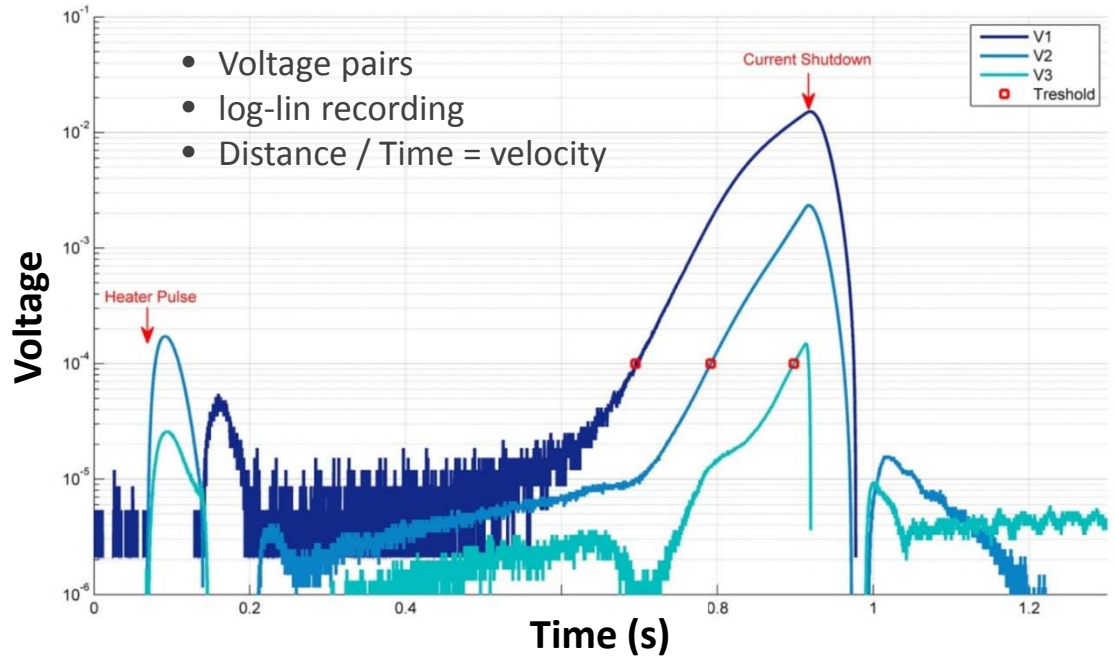
Figure 1 Dedicated sample holder for the critical current measurements of tapes, where (1) connector block for all sensors (2) the Cu block inside the G10 part to which the tape will be soldered (3) NbTi current leads which are attached to copper current leads and several power supplies (4) the G10 block (5) Cu plates to hold the tape in place (6) Cu block which is held at a constant temperature with use of a heater (7) the HTS tape.

- ✓  $0 < I < 1.2 \text{ kA}$
- ✓  $4.2 < T < 50 \text{ K}$
- ✓  $0 < B_{\text{appl}} < 1.5 \text{ T}$
- ✓  $0 < \theta < 360^\circ$

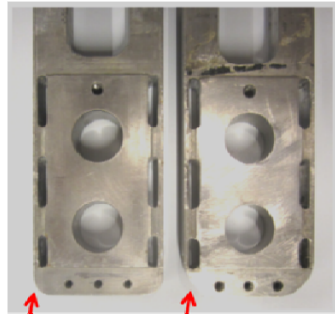




- ✓  $0 < I < 500 \text{ A}$
- ✓  $4.2 < T < 50 \text{ K}$
- ✓  $0 < B_{\text{appl}} < 14 \text{ T (//)}$



# Critical current *cable* (4.2K, $\perp$ field, transverse pressure) UNIVERSITY OF TWENTE.



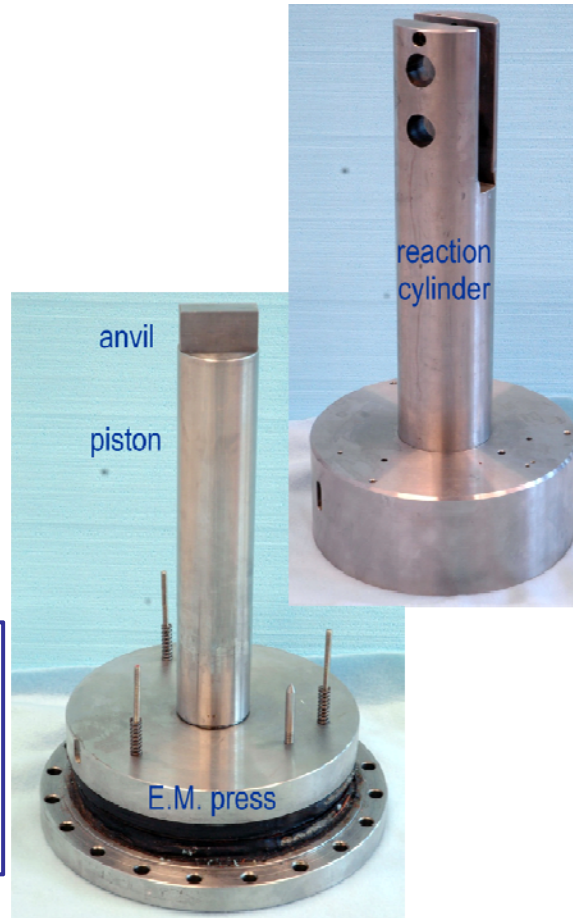
$Nb_3Sn$  Rutherford  
holder:  $\varnothing$  10mm

ReBCO Roebel  
holder:  $\varnothing$  20mm

'Hair pin'-type  
sample holder

- ✓  $0 < I < 50$  kA
- ✓ 4.2 K
- ✓  $0 < B_{appl} < 11$  T ( $\perp$ )
- ✓  $0 < \sigma < 500$  MPa

$$F_{\max} = 260 \text{ kN}$$

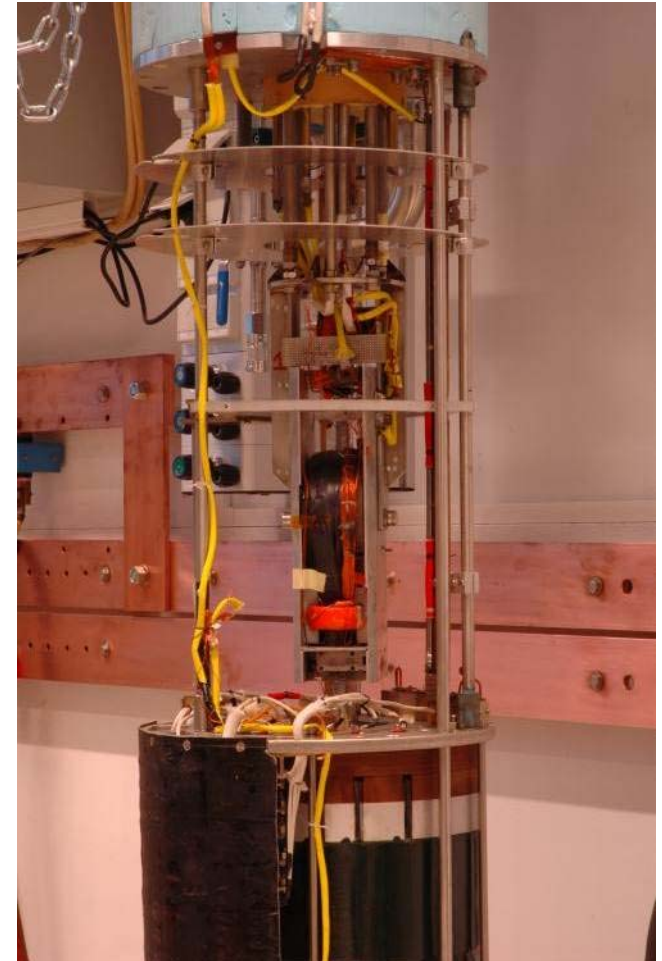


anvil  
piston

reaction  
cylinder

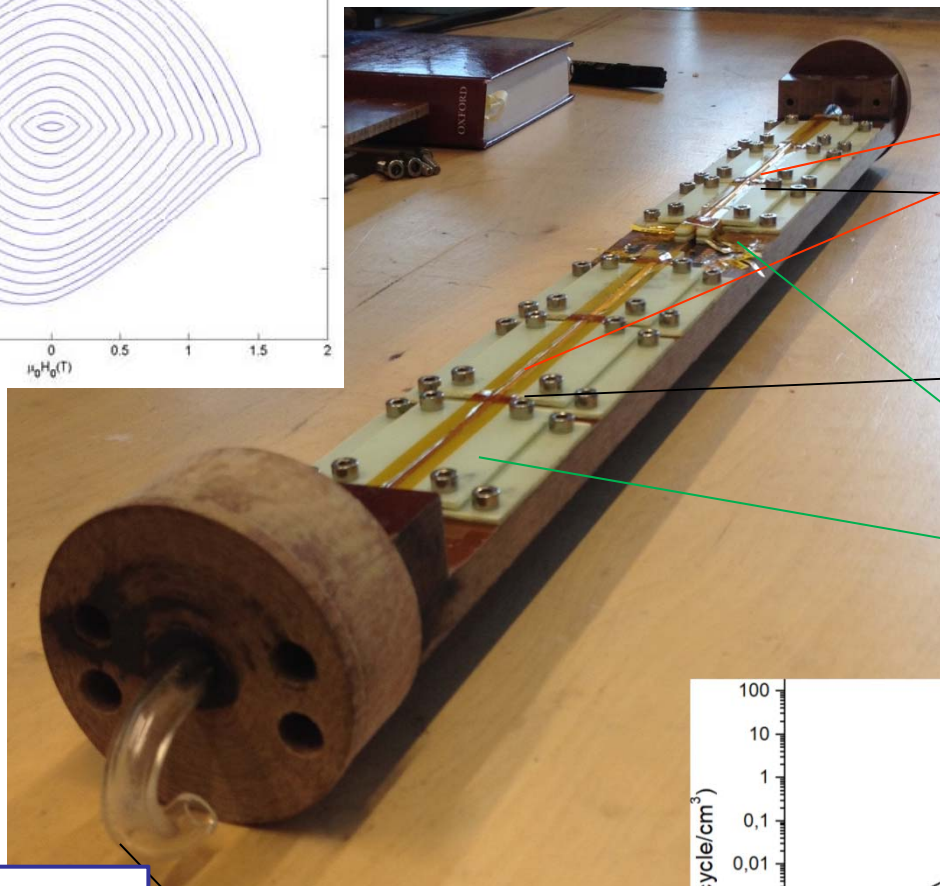
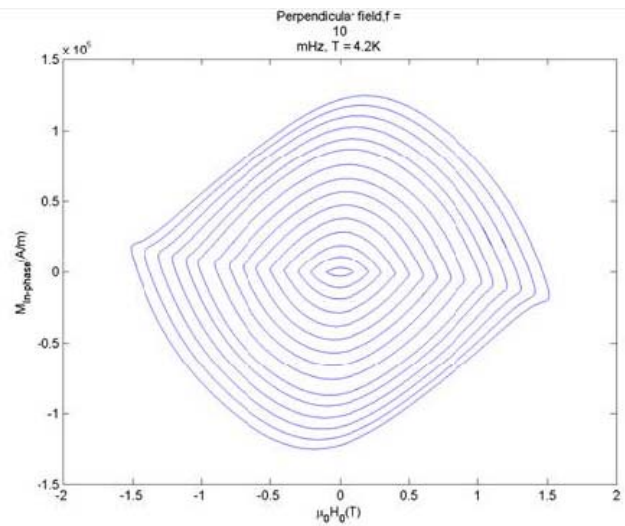
E.M. press

E.M. cryo-press



S.C. transformer

# M(H) & AC loss *cable* (4.2K, ampl., freq., field angle)



$m_{//}$  pick-up & compensation coils

Dummy sample

Sample (under cover, not visible)

$m_{\perp}$  pick-up & compensation coils (under cover, not visible)

- ✓ 4.2 K
- ✓  $10 \text{ mHz} < f < 1 \text{ Hz}$
- ✓  $0.01 < B_{\text{appl}} < 1.5$
- ✓ transverse (any  $\theta$ ) or longitudinal

Calorimeter | He inlet

