



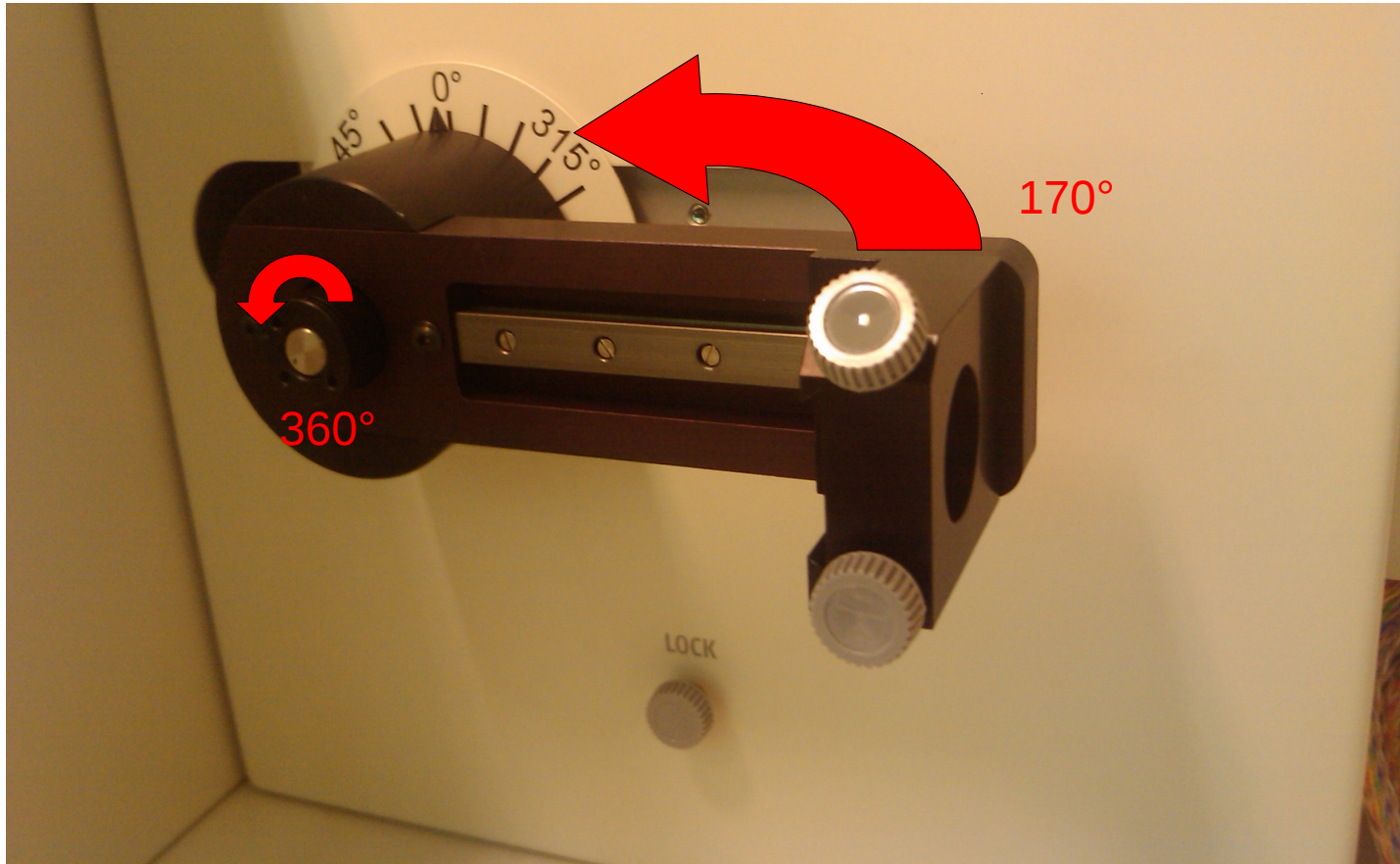
Universität Hamburg

DER FORSCHUNG | DER LEHRE | DER BILDUNG

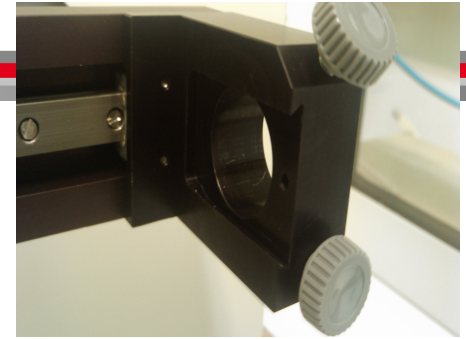
Update of the energy calibration of CMS pixel modules

Matteo Centis Vignali, Tobias Lapsien, Jennifer Sibille

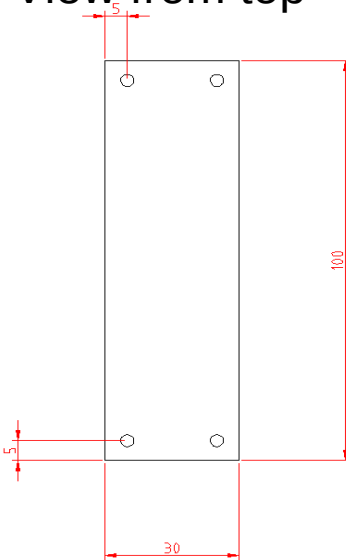
Setup



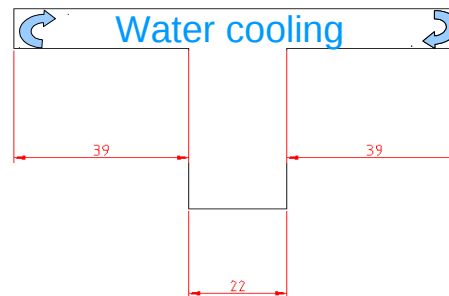
Module carrier



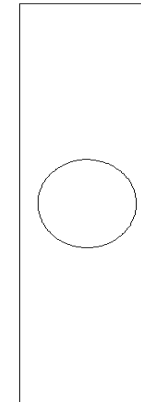
View from top



View from side

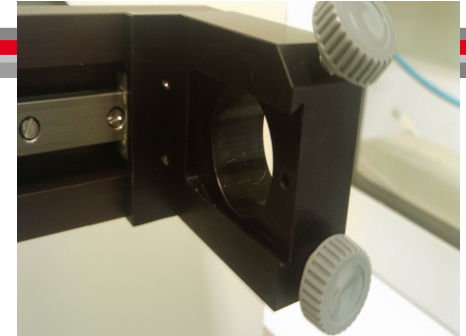


View from bottom

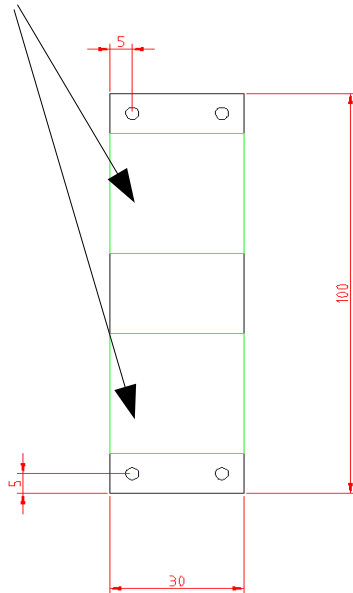


Cooling with a constant temperature between 15°C and 20°C

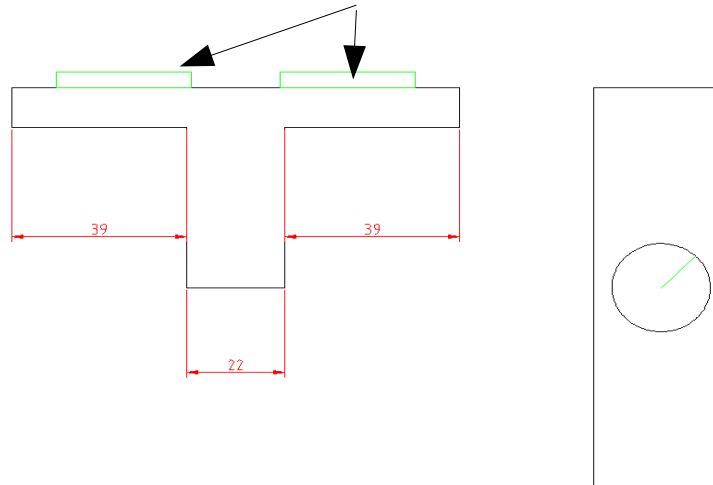
Module carrier



Peltier elements



Peltier elements



2 Peltier elements

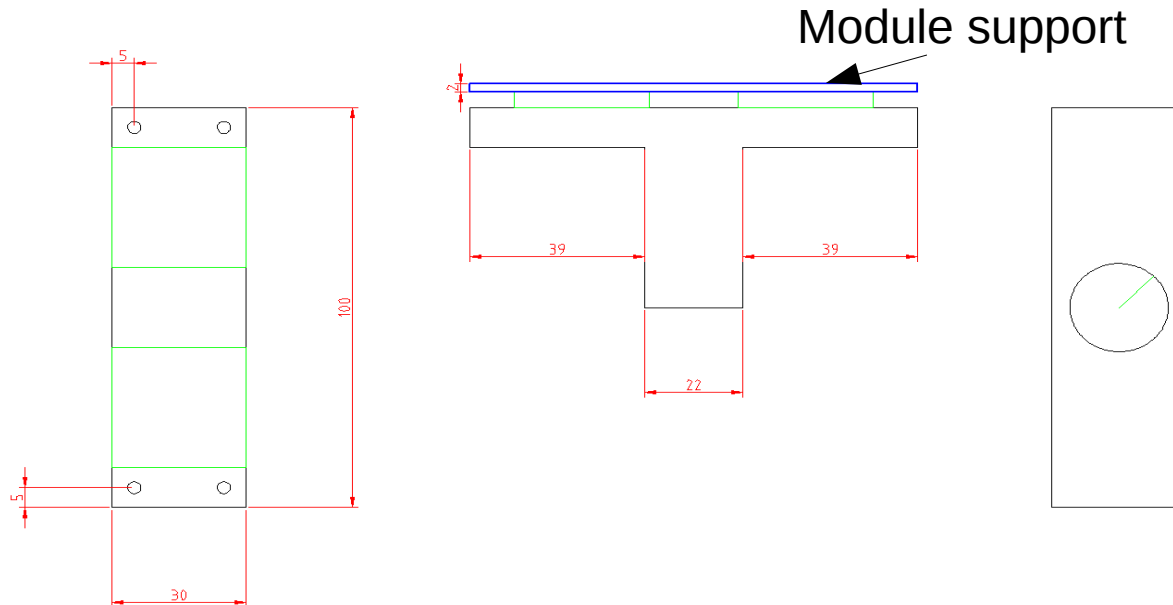
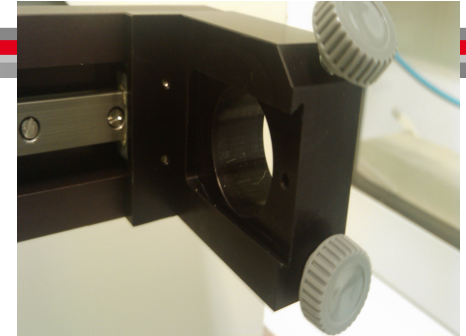
-30mm*30mm

- $I_{\max} = 6.6\text{A}$

- $V_{\max} = 8\text{V}$

- $Q_{\max} = 31.8\text{W}$

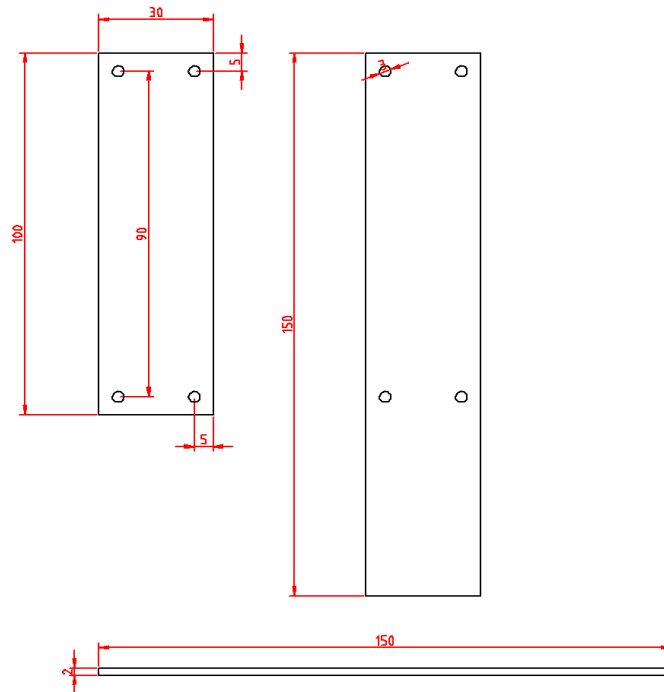
Module carrier



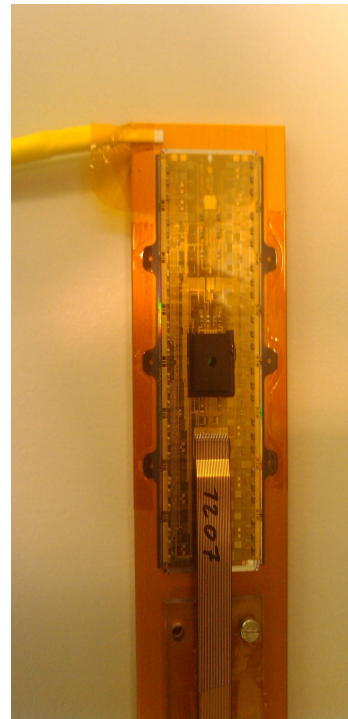
The module support is mounted on top of the peltier elements

Module support

View from top

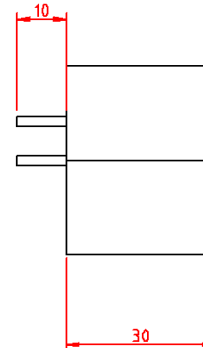
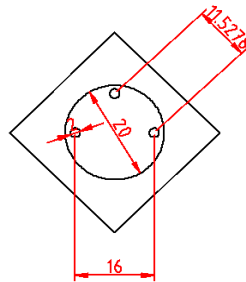
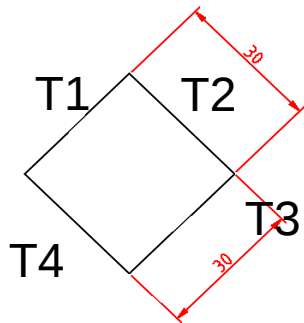


View from side



The module support can have a maximum length of 15cm to fit in our XR-Box

Target holder



Target holder

-4 Targets possible

-foreseen :

-Silver

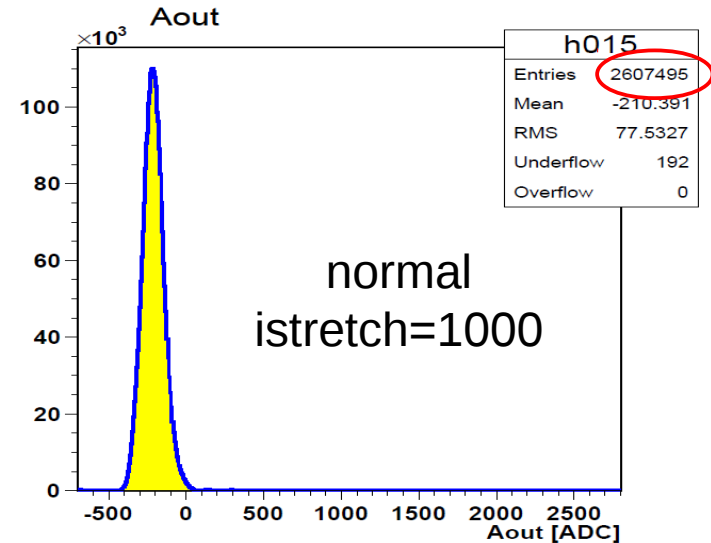
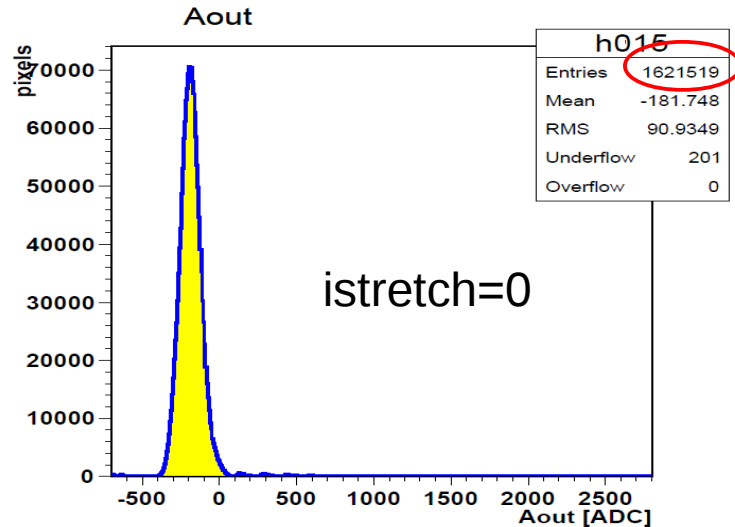
-Molybdenum

-Tellurium

- ?

DESY code

- with the DESY code a huge number of entries in both of the istretch cases
- number of good words is low (at least around 45%)



RAL code (recent version of psi code)

- much less entries than with the DESY code
- in each run we had 100% good words

