

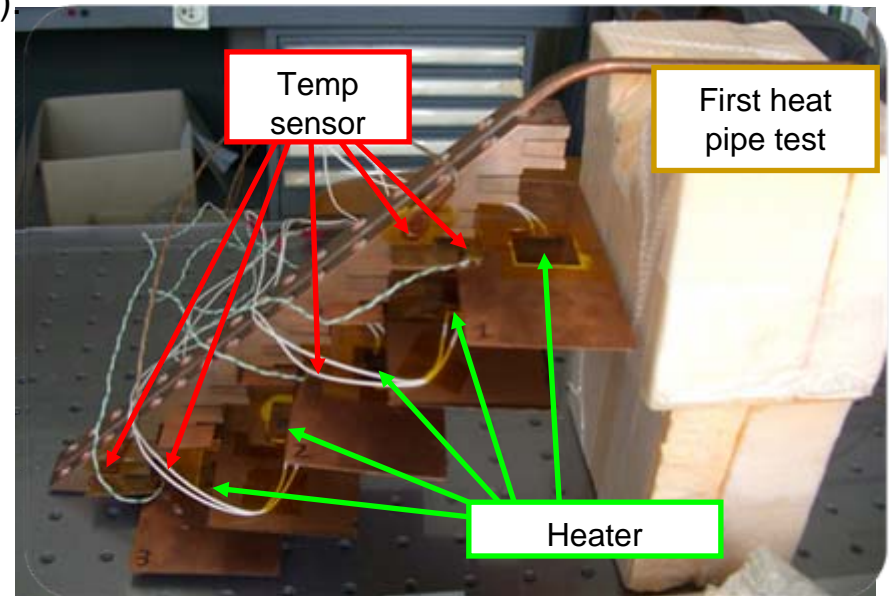
EUDET PLANNING COOLING LPSC

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Status of the portable cooling station for EUDET life:

- Chiller and flow meter => ORDERED
- Important step : machining of heat pipe cooling system and water cooling system will begin after the final assembling of the alveolar structure (we need final dimension of the alveolar structure) => November 2010.
- Spring 2010 First test of heat pipe test (15 W design)
- November 2010 construction of both systems:
 - Heat pipe
 - Water cooling system for EUDET (143 W)



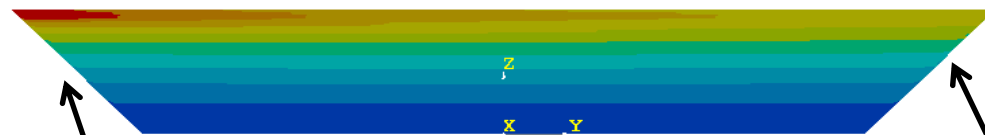
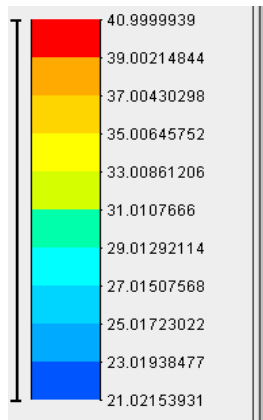
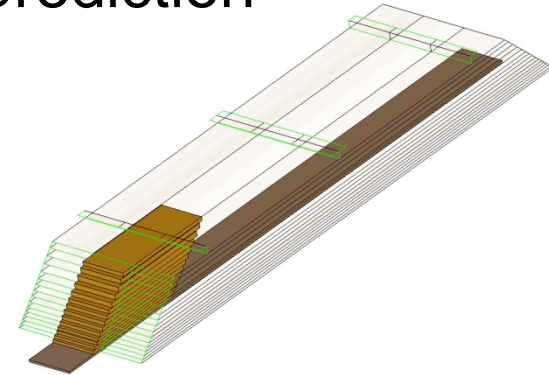
**COOLING system for
EUDET : march 2011**

Thermal simulation with extreme power prediction

Extreme power pulsing on **ASU** => X 20 I

Initial total power for EUDET 120 W => 143 W

Power on the longest SLAB : 8.2 W



COOLING location

(High temp is due do
ADAPT and DIFF power)

End off slab : max 35°C
(natural convection reduce
the temperature)

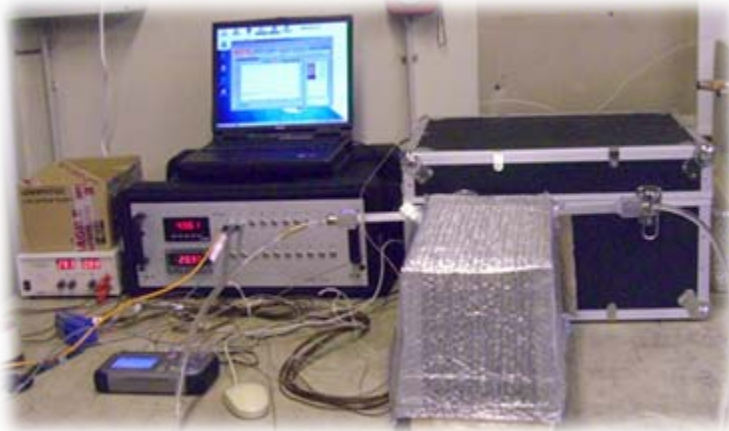
EUDET temperature estimation with natural convection

(test beam configuration)

EUDET cooling test

SPRING 2010 : A series of thermal test was done on heat pipe system and water system.

Goal of the tests => learn more about contact thermal resistance with the different configuration.



Test bench



Water
exchanger



Heat pipe
exchanger



Connection Copper drain / exchanger

LPSC => Cooling + Cooling support

ADAPT / DIFF / CABLE support ?? WHO ?

