A Large Ion Collider Experiment



ITS3 activities in Bari WP5

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ALICE | Internal meeting | 25 March 2024 | Domenico Colella

sensor

1 m

(a)

(a)

 $50 \mathrm{mm}$

Grid L



 $2 + 10^{-5}$

f (Hz) (Hz)

f (Hz)

100

f (Hz)

(f) PSD at H-L2 C-side - $v_{\infty} = 8 \text{ m/s}$

(d) PSD at H-L2 Center - $v_{\infty} = 8 \text{ m/s}$

 $1 \text{st} f_n$ 550 Hz

(b) PSD at H-L2 Center - No flow

1000

1000

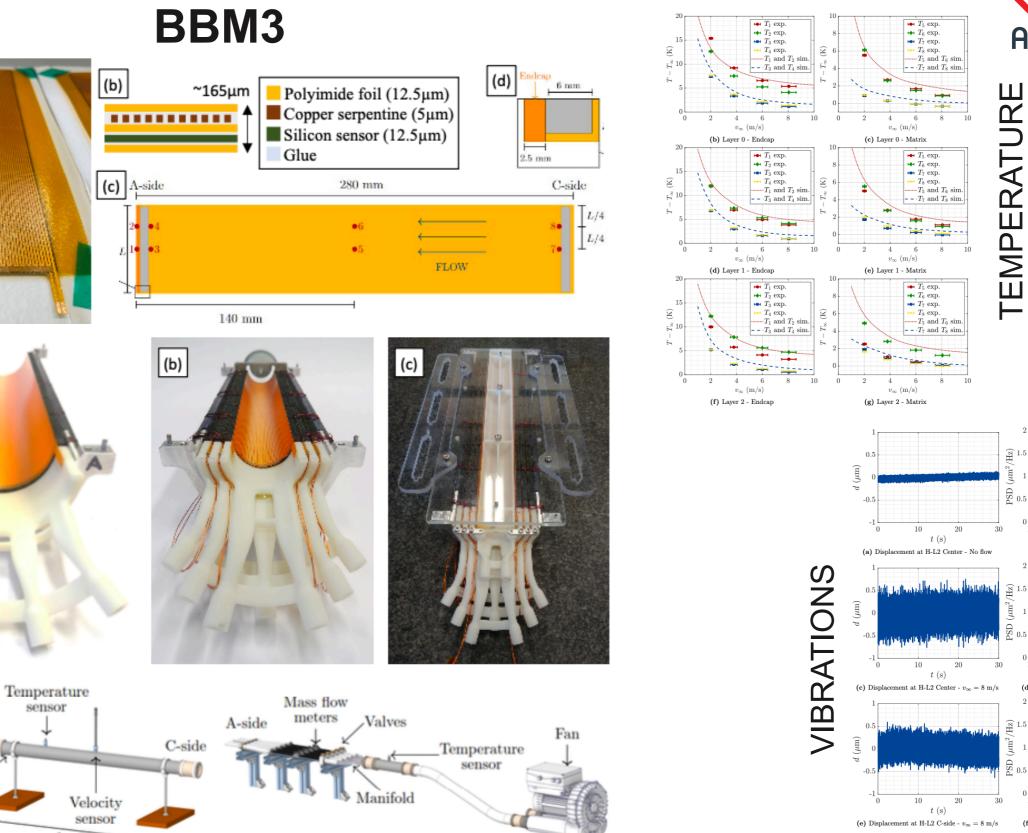
 $\begin{array}{c|c} 1 \mathrm{st} \ f_n & 2\mathrm{nd} \ f_n \\ 550 \ \mathrm{Hz} & 850 \ \mathrm{Hz} \end{array}$

1000

10

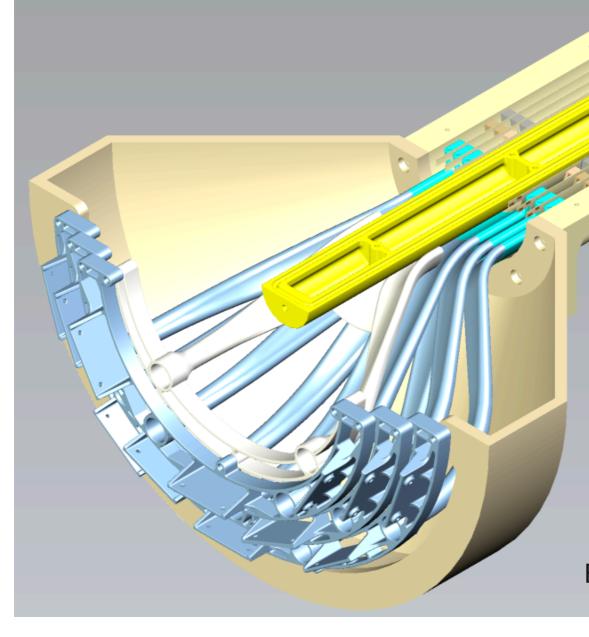
10

10



BBM6

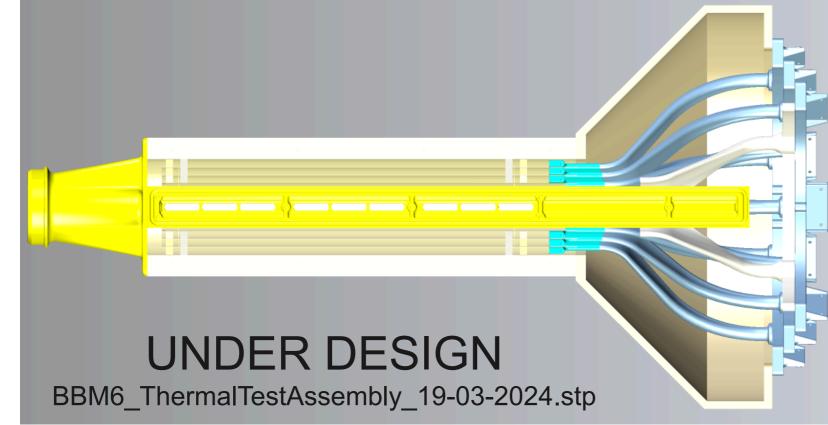




UNDER DESIGN BBM6_ThermalTestAssembly_19-03-2024.stp

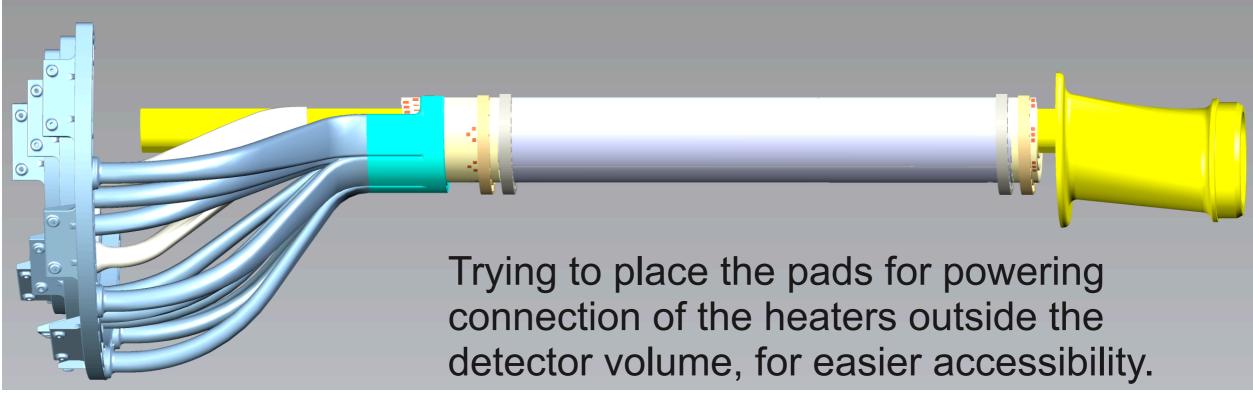
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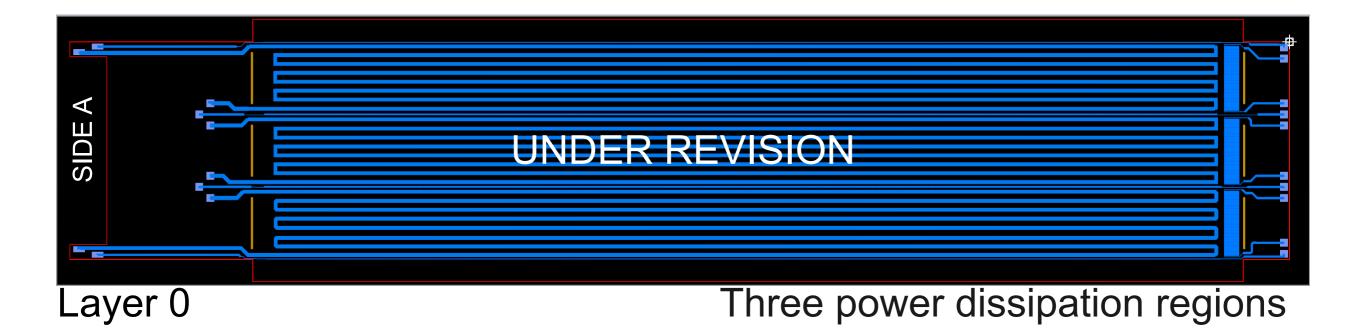












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ONGOING ACTIVITIES

➡ Model design

- <u>CYSS</u> including windows for measurement tools
- Conical support structure larger to account last version of air-dots
- <u>Beam-pipe</u> in two versions: 1) including windows for measurements; 2) including PT1000 for thermal effect on pipe study

Heaters

- Three power dissipation regions: pixel matrix, endcap, readout
- Longer design to include simulator for the FPC
- Discussing with Rui/Serge, possibility to have deposition of metal to simulate pads for wire-bonding → Could require R&D; if yes, give up
- Warning! Delivery time to be discussed again with Rui

➡ Further points

- Tools and mandrels \rightarrow Waiting for "final" design from CERN
- Looking for better PT1000 sensors (wrt BBM3): 4 wires, class > A \rightarrow Bari
- Carbon foam half-rings/longerons \rightarrow CERN
- 3d printing \rightarrow Bari/CERN

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