PLUME phone meeting
26th February 2010

Mounting the sensors on the flex

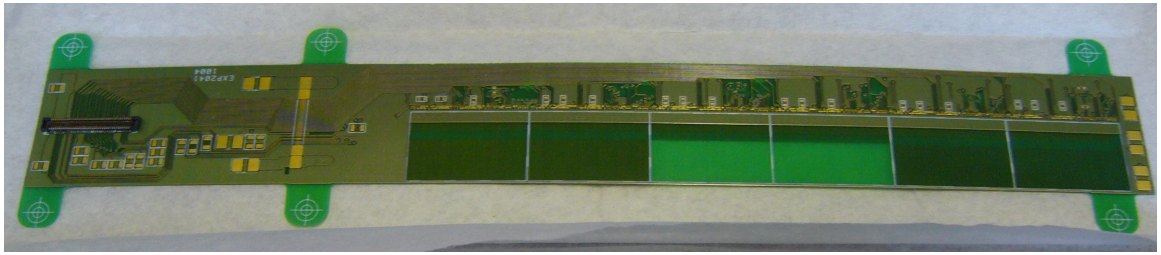
N. CHON-SEN

Mounting the sensors on the flex

Design of aluminum tools : to mount and glue the sensors on the flex
no automatic machine, develop a dedicated tooling for 2010 prototypes

what was required to produce this tool :

- *Board file* of the flex given, converted into CATIA file
- *a PCB flex version* (unmounted & untested) received from Oxford (3th February 2010)

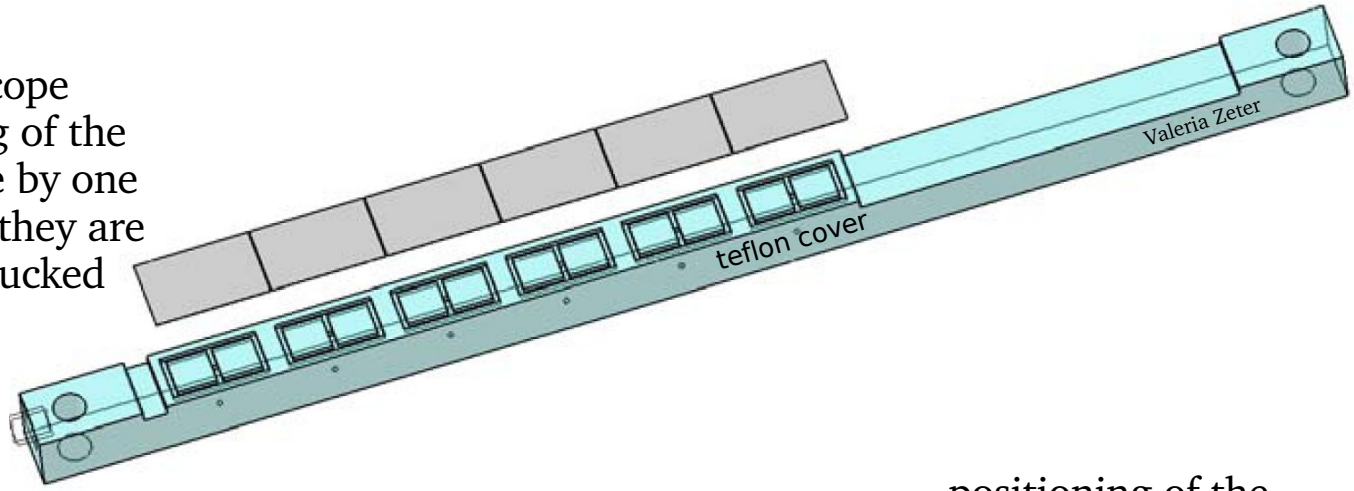


- *Sensors*, we are thinking about simulating sensors out of thin glass material
  => Quote from Technical Glass company (Lille), http://www.technicalglass.fr/index.html

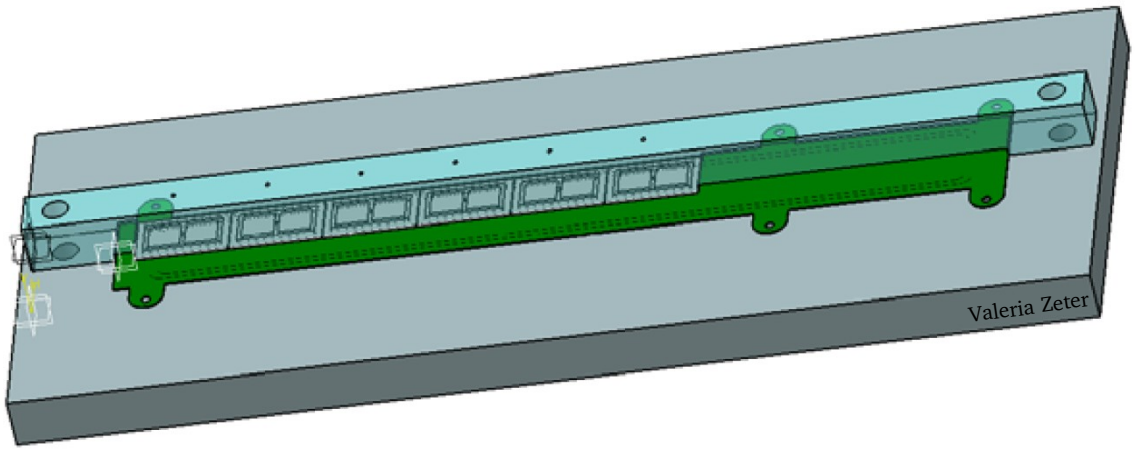
Description	Quantity	Price/piece	Delivery
Borosilicate glass 21.5mm x 13.8mm 0.05mm +/-0.01mm thickness.	25	€63.50	4 weeks
Borosilicate glass 21.5mm x 13.8mm 0.05mm +/-0.01mm thickness.	50	€52.00	4 weeks
Borosilicate glass 21.5mm x 13.8mm 0.05mm +/-0.01mm thickness.	100	€35.00	5 weeks

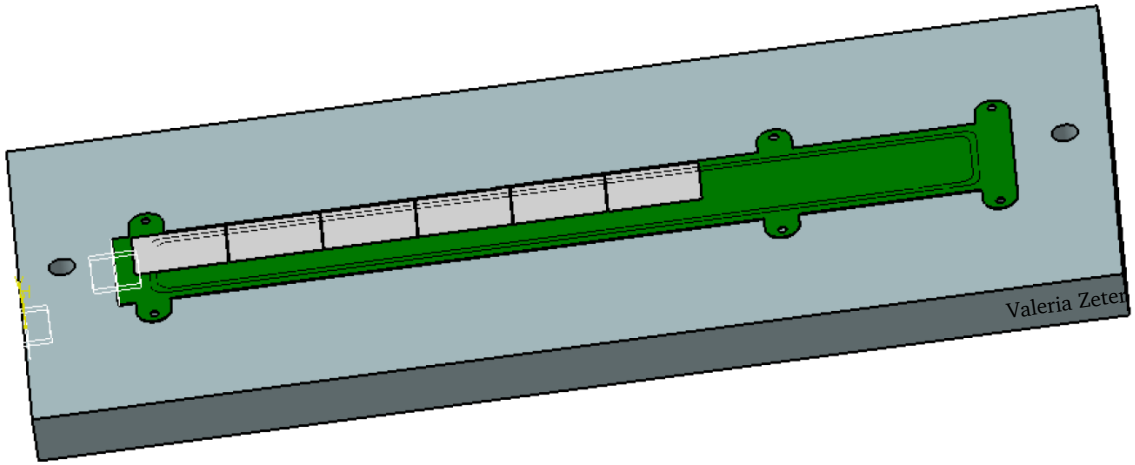
Mounting the sensors on the flex

microscope positioning of the sensors one by one on the bar, they are vacuum sucked



positioning of the sensors on the flex. The flex is also vacuum sucked on the bottom piece which will also be used for **bonding**





Mechanical drawing ready

=>Aluminum tools should be ready for mid-march 2010 (optimistic)

Design of a sole

To be used for testing and transport between laboratories
see with Bristol HOW it could also be used to glue the foam on the flex

10 boxes will be produced (20 pieces)
=> will be done after the production of the aluminum tool

Preliminary planning

FEBRUARY : PCB flex version arrived at Oxford on 29th January 2010
Ordering of few samples of kapton-flex version to GRAPHIC ?
mechanical support design (Bristol)
Auxiliary board design & routing

MARCH : Kapton-flex version tested at Oxford & IPHC (with sensors)
* mid march : aluminum tools to mount the sensors ready
: arrival of 50 µm thinned sensors from Berkeley
* end of march : auxiliary board ready

APRIL : Ordering of few samples to different vendors to qualify them

JUNE : Tests & validation

JULY : Choice of the best vendor and ordering of ~ 20 samples