

DEPFET cooling

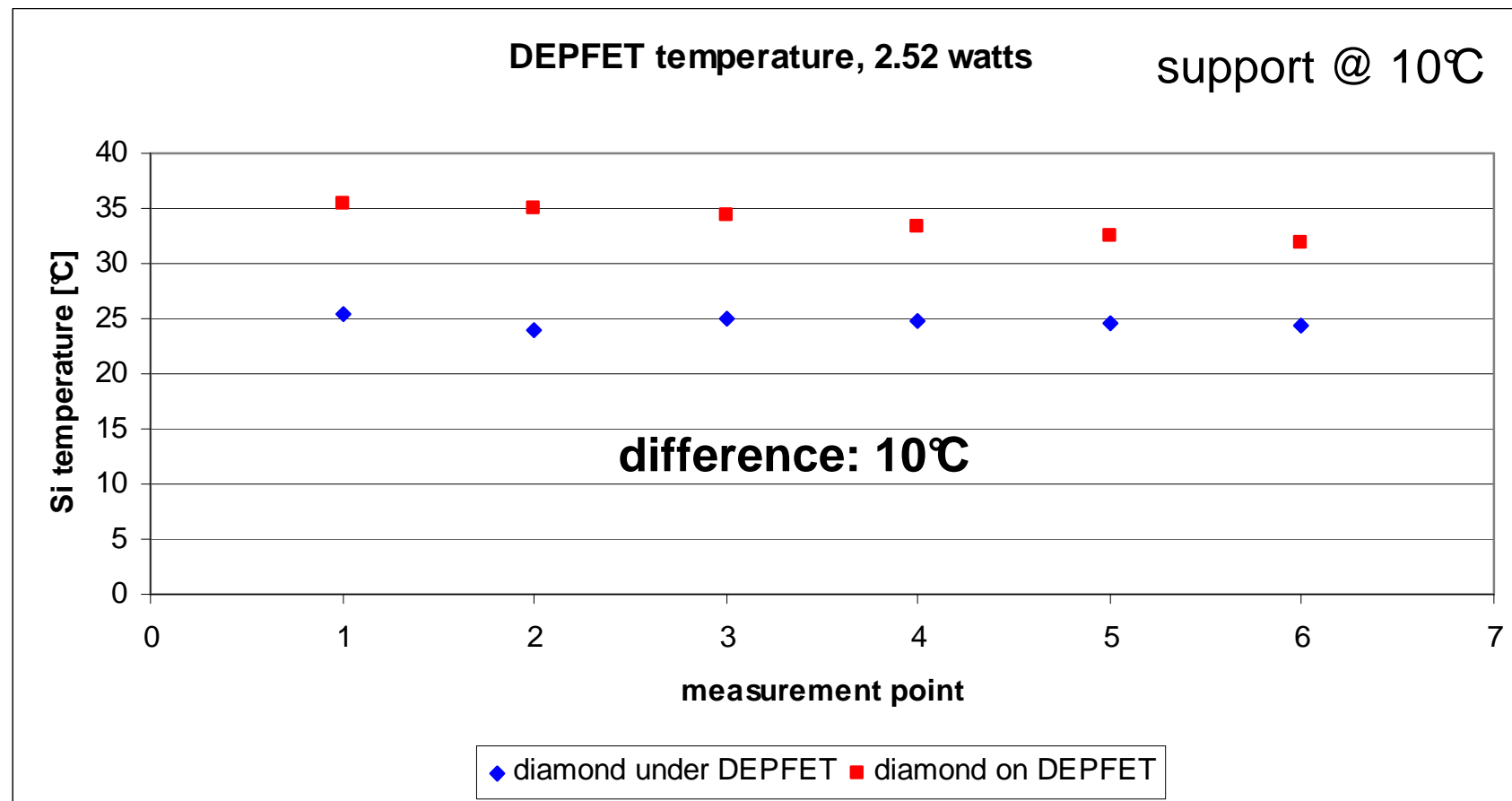
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Belle II PXD EVO meeting – 22.09.2009



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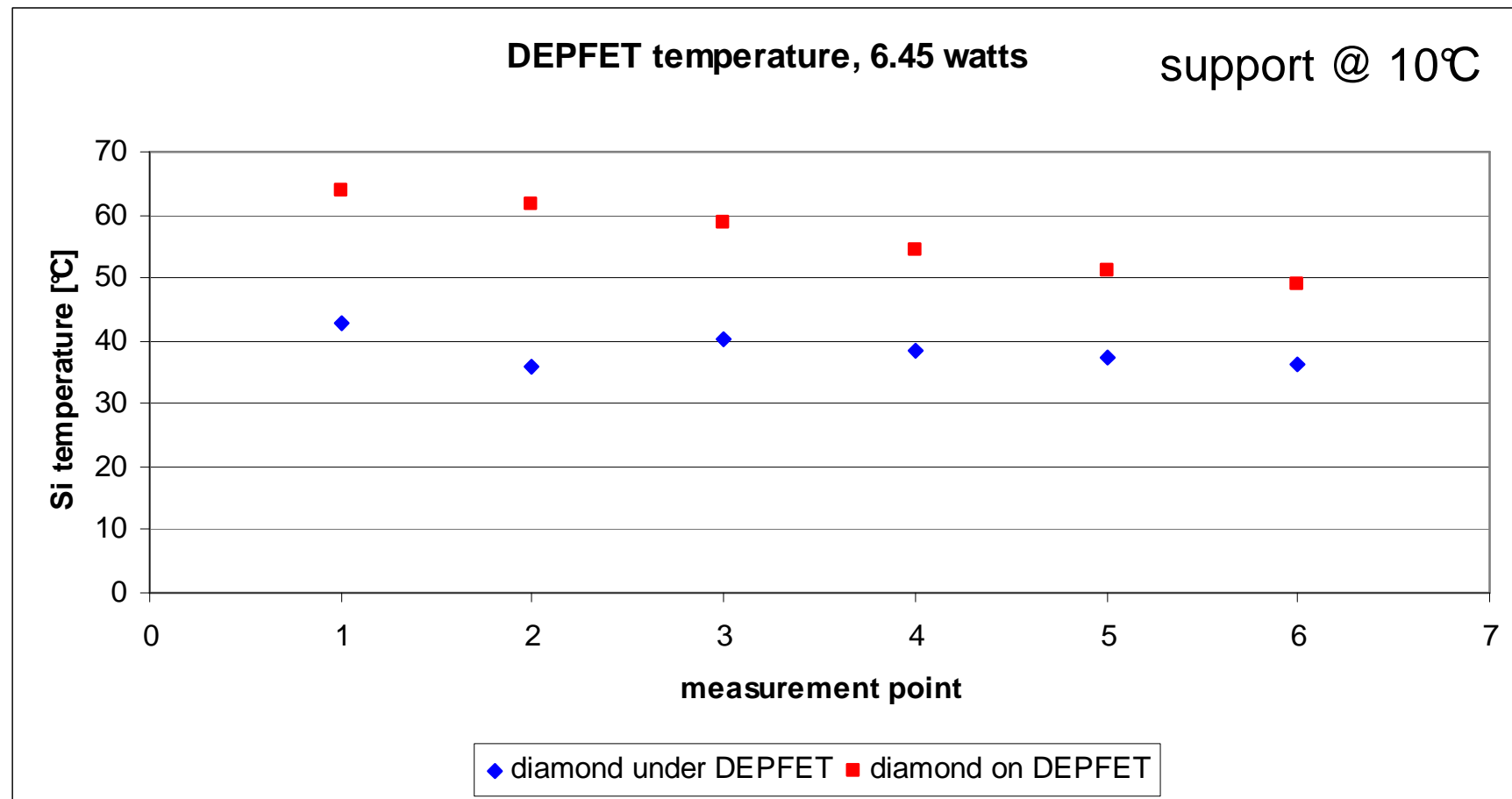
1. results from measurements

- diamond on top of DEPFET, *without TPG-foil*
- results for 2.5, 3.6, 4.9 and 6.5 watts



1. results from measurements

- highest power consumption: 6.45 watts ($\ll 9\text{W!}$)
- difference now about 20°C!



2. workpackage

- separation of our workpackage in two parts:
- 1. Karlsruhe:
simulation and measurements of „diamond on top with TPG-foil“
- 2. Valencia:
simulation and measurements of „diamond under DEPFET and chips“
- also to be done:
simulations of impact of both solutions on physics performance!

3. TPG-foil

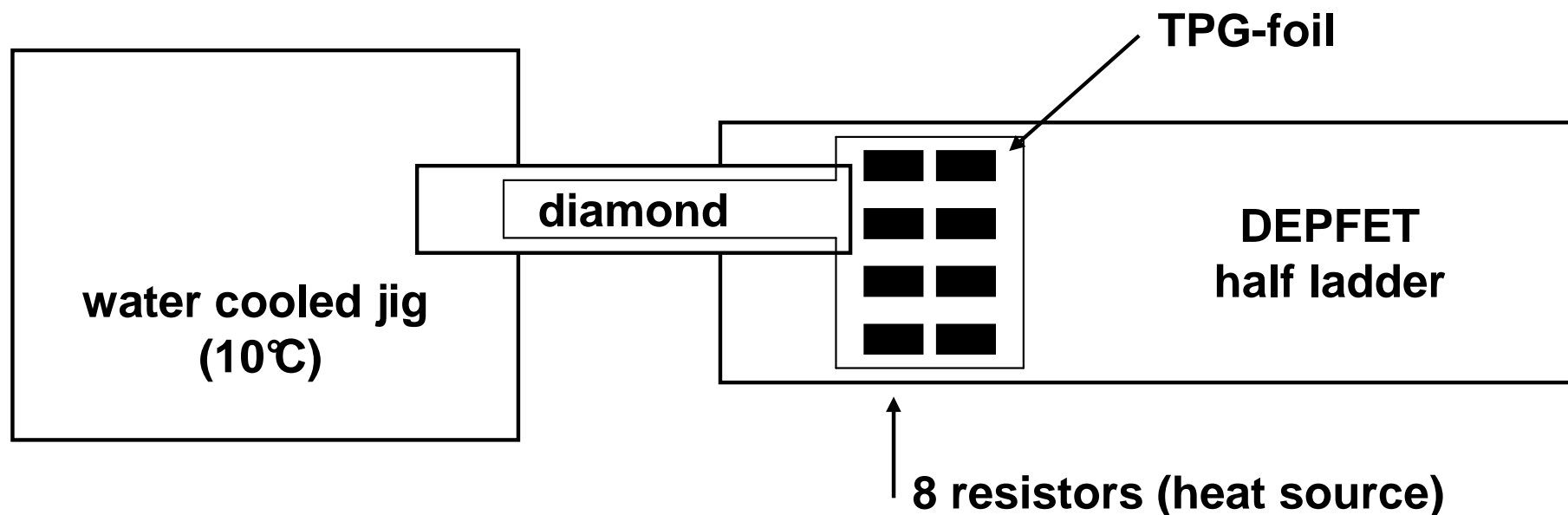
- the TPG-foil purchased by Karlsruhe turned out to be unusable (not flexible)
- last week: meeting with representatives from Optigraph
- we now have new samples of TPG-foil (80µm thick)
- even new type of foil is like „normal TPG“!
- same problems:
mechanical stability and flexibility
- production of curved surface still difficult

3. TPG-foil

- simulations done in Karlsruhe show that minimum thickness of TPG-foil is $\sim 200\mu\text{m}$
- new measurements with 80, 160 and $240\mu\text{m}$ of TPG between chips and diamond
- trying to have results with new TPG-foil ready for Barcelona meeting

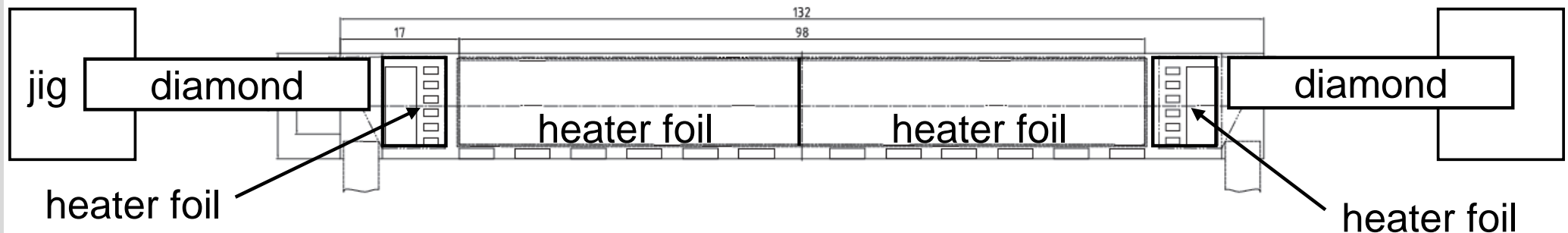
4. current measurements

- only two weeks to Barcelona meeting!!!
- no time to build new measurement setup
→ use old setup again!



5. new setup in October

- new setup postponed to October



- complete ladder
- 2 new cooling jigs (to be manufactured)
- long Si-strip (available)
- 4 heater foils (ordered)
- second CVD-diamond (ordered)