

DHP Temperature on Hybrid5 and PXD9

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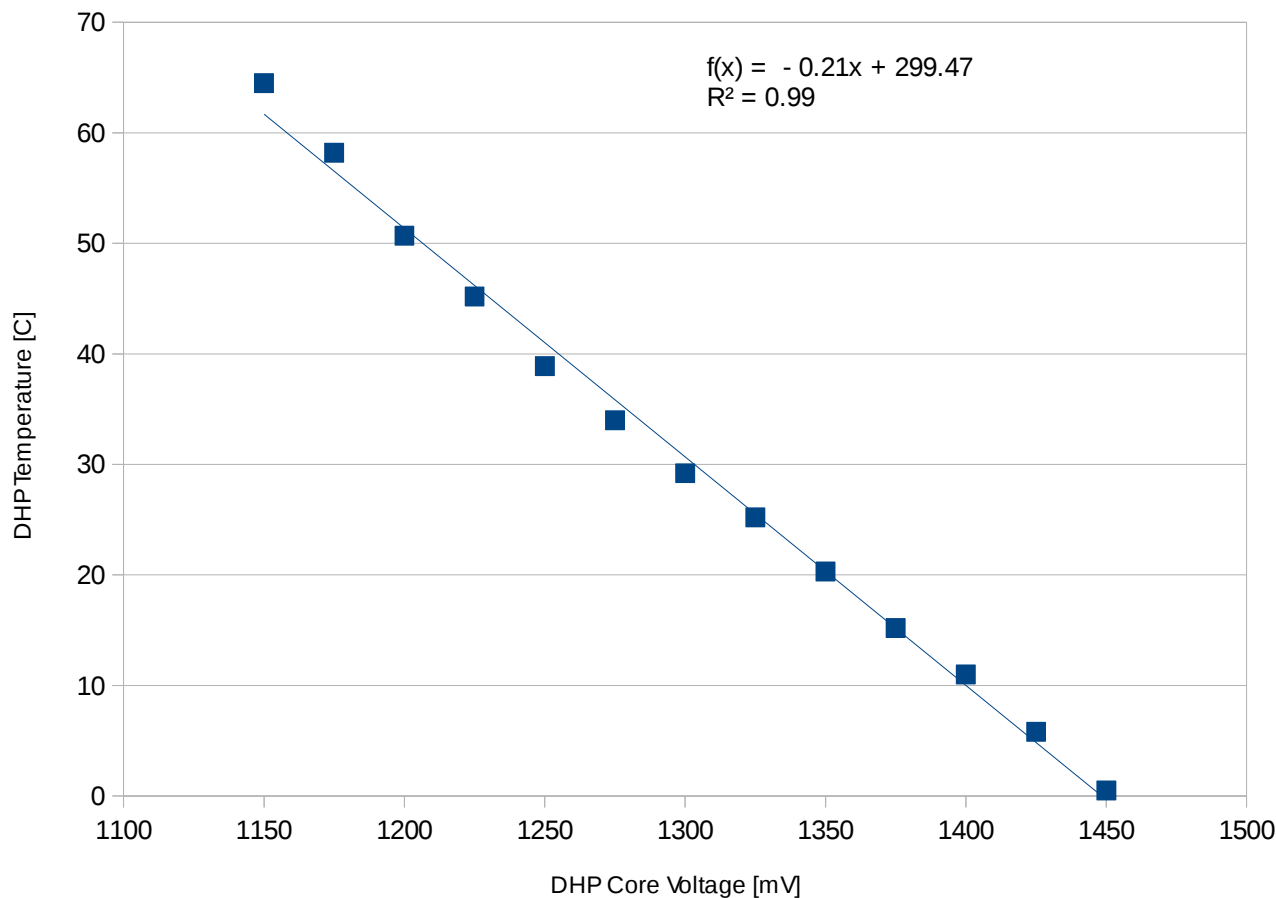
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Motivation

- At KEK it was seen that the DHP temperature measurement is not reliable and often does not work at all
- Increased DHP Core voltage seems to help with this issue, though it was observed that the temperature is lower than before
- Therefore we decided to systematically vary the DHP core voltage on a Hybrid5 and a PXD9 module and study if and how the temperature readings change
- DHP4 on W43_IB at Goettingen showed „noisy“ behaviour, does this change with increased core voltage?

Hybrid 5

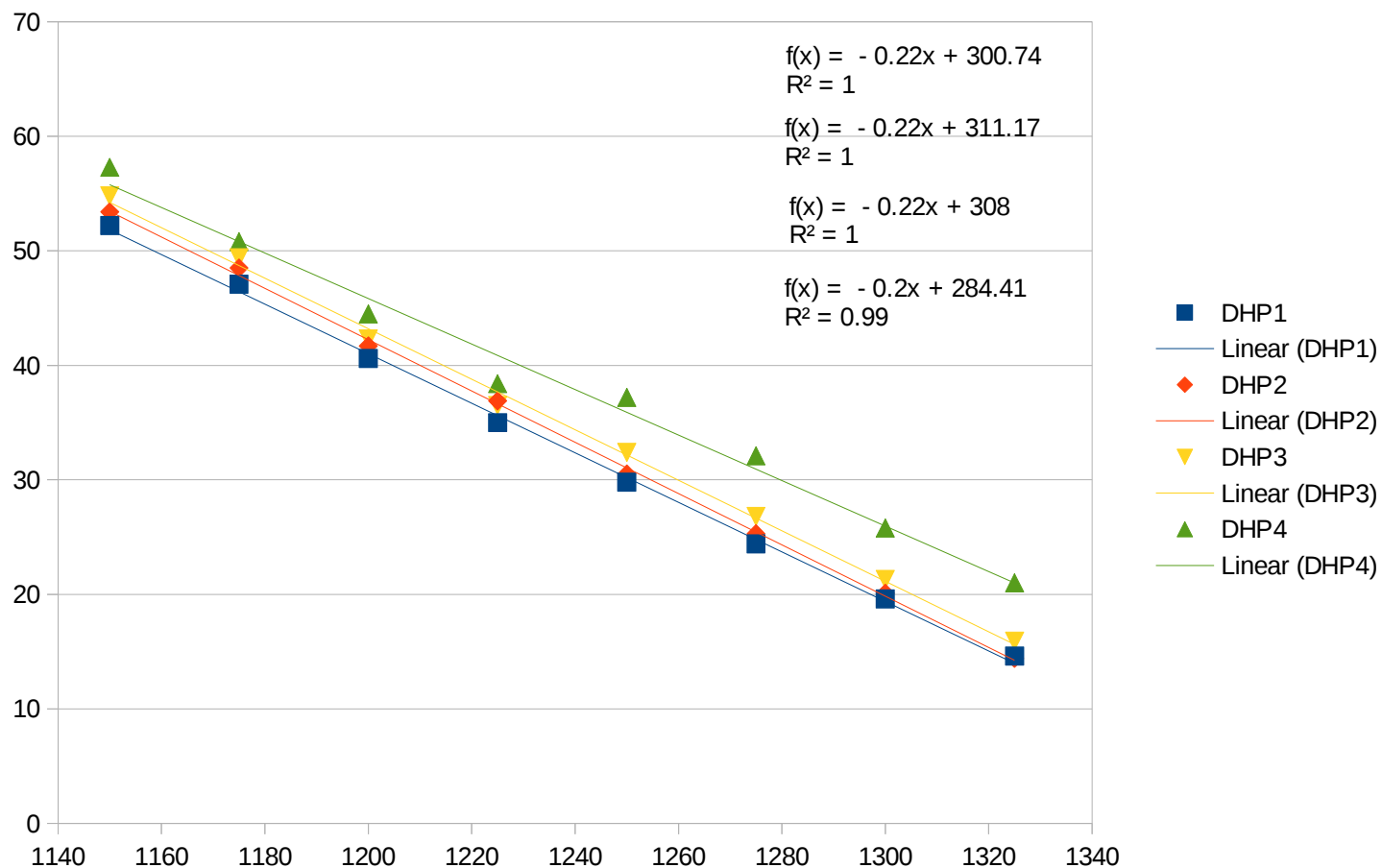
- The measurements have been performed on H5024 (DHP1.1, DCD4.1)
- DHP Core voltage varied from 1150 mV to 1450 mV



DHP core volt. [mV]	DHP Temp. [C]
1150	64.5
1175	58.2
1200	50.7
1225	45.2
1250	38.9
1275	34
1300	29.2
1325	25.2
1350	20.3
1375	15.2
1400	11
1425	5.8
1450	0.5

PXD9

- The measurements have been performed on W43_IB (DHP1.2b, DCD4.2)
- DHP Core voltage varied from 1150 mV to 1325 mV



core [mV]	DHP1	DHP2	DHP3	DHP4
1150	52.2	53.4	54.8	57.3
1175	47.1	48.5	49.4	50.8
1200	40.6	41.7	42.3	44.5
1225	35	36.9	36.5	38.4
1250	29.8	30.5	32.4	37.2
1275	24.4	25.3	26.8	32.1
1300	19.6	20.1	21.3	25.8
1325	14.6	14.4	15.9	21

DHP4 Noise

- Noise on DHP4 gets better when the voltage reaches 1300 mV

