

LHC Vertical Dispersion and MQ powering

LNO Section Meeting

24/05/2024

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The plan

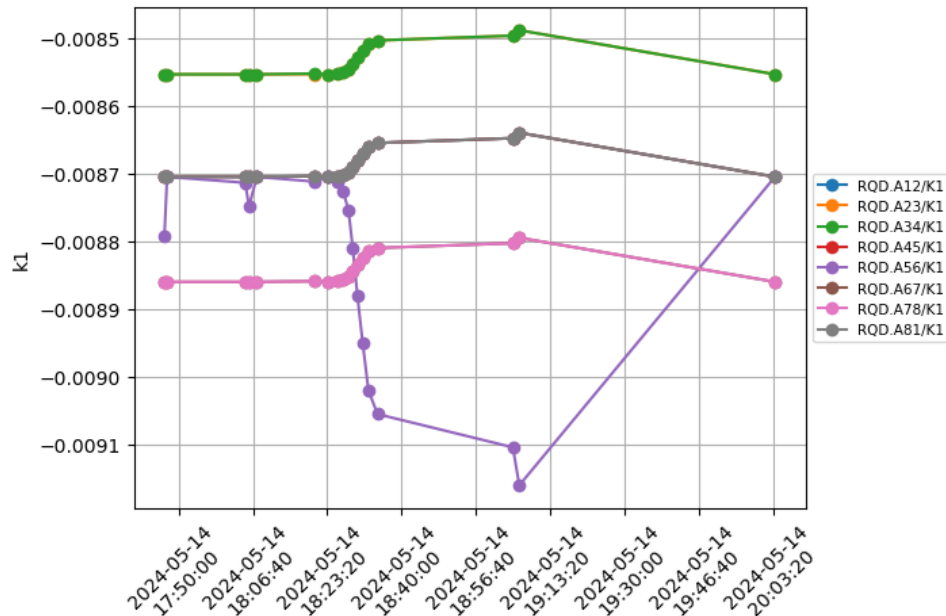
- Reduce by 10% MQ strength at ARC 56 (specifically the knob connected with MQ.29R5.B2 -> KQD.A56)
- Compensate with MQT

Not well matched knob

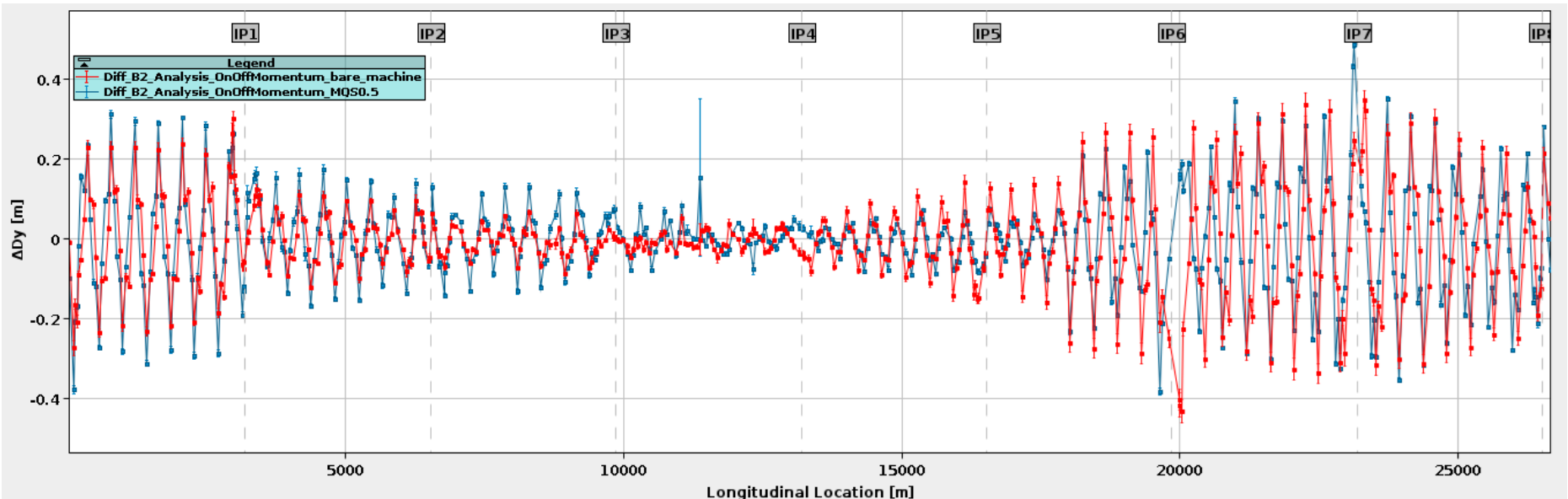
-> dump + tune of 59

The measurement

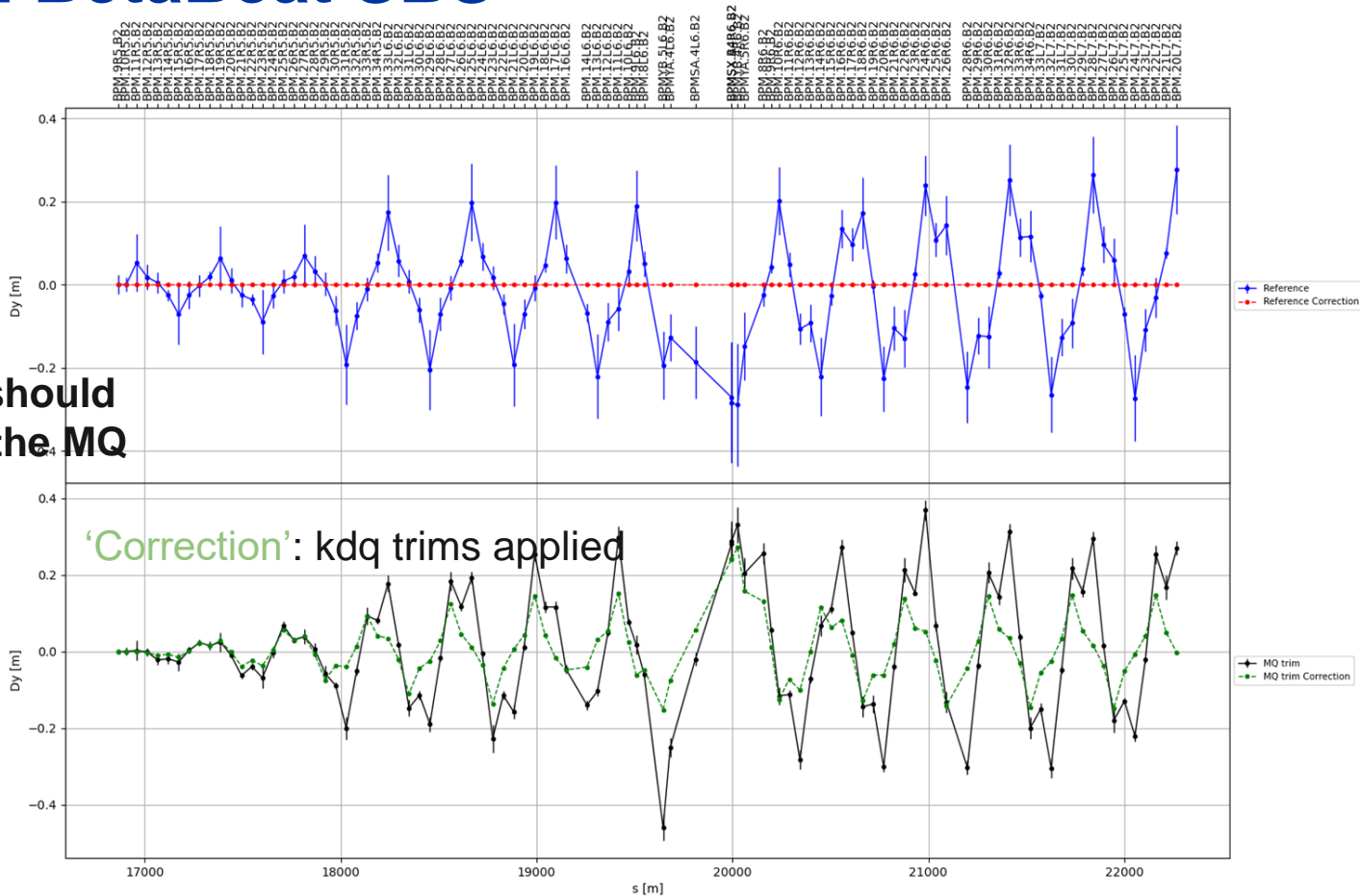
- Reduce by 5% MQ strength at ARC 56 (specifically the knob connected with MQ.29R5.B2 -> KQD.A56)
- Compensate with all the other arcs
- Fill 9627



Global Dispersion



Extracted from BetaBeat SBS



For completeness we should also use a model with the MQ trims applied

'Correction': kdq trims applied

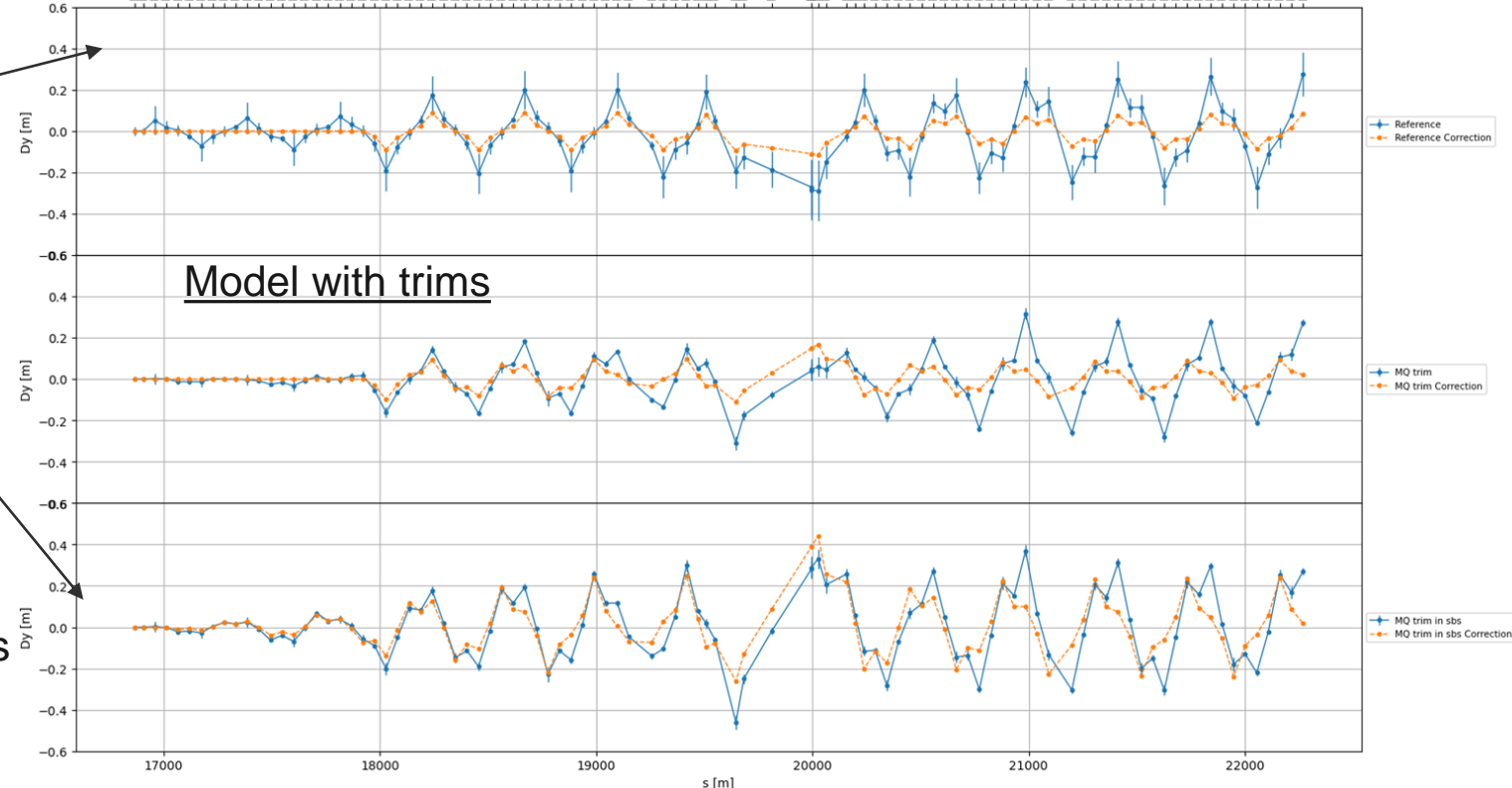
Extracted from BetaBeat SBS

MQ.29R5.B2: 9 mrad tilt

BPM_90R5.B2
BPM_1115.B2
BPM_1245.B2
BPM_1395.B2
BPM_1495.B2
BPM_1545.B2
BPM_1615.B2
BPM_1845.B2
BPM_1985.B2
BPM_2195.B2
BPM_2335.B2
BPM_2455.B2
BPM_2645.B2
BPM_2795.B2
BPM_3045.B2
BPM_3195.B2
BPM_3345.B2
BPM_3445.B2
BPM_3635.B2
BPM_3765.B2
BPM_3865.B2
BPM_4166.B2
BPM_4216.B2
BPM_4416.B2
BPM_4516.B2
BPM_4616.B2
BPM_4716.B2
BPM_4816.B2
BPM_5116.B2
BPM_5216.B2
BPM_5316.B2
BPM_5416.B2
BPM_5516.B2
BPM_5616.B2
BPM_5716.B2
BPM_5816.B2
BPM_5916.B2
BPM_6016.B2
BPM_6116.B2
BPM_6216.B2
BPM_6316.B2
BPM_6416.B2
BPM_6516.B2
BPM_6616.B2
BPM_6716.B2
BPM_6816.B2
BPM_6916.B2
BPM_7016.B2
BPM_7116.B2
BPM_7216.B2
BPM_7316.B2
BPM_7416.B2
BPM_7516.B2
BPM_7616.B2
BPM_7716.B2
BPM_7816.B2
BPM_7916.B2
BPM_8016.B2
BPM_8116.B2
BPM_8216.B2
BPM_8316.B2
BPM_8416.B2
BPM_8516.B2
BPM_8616.B2
BPM_8716.B2
BPM_8816.B2
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BPM_9116.B2
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BPM_11116.B2
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BPM_23716.B2
BPM_23816.B2
BPM_23916.B2
BPM_24016.B2

Reference model

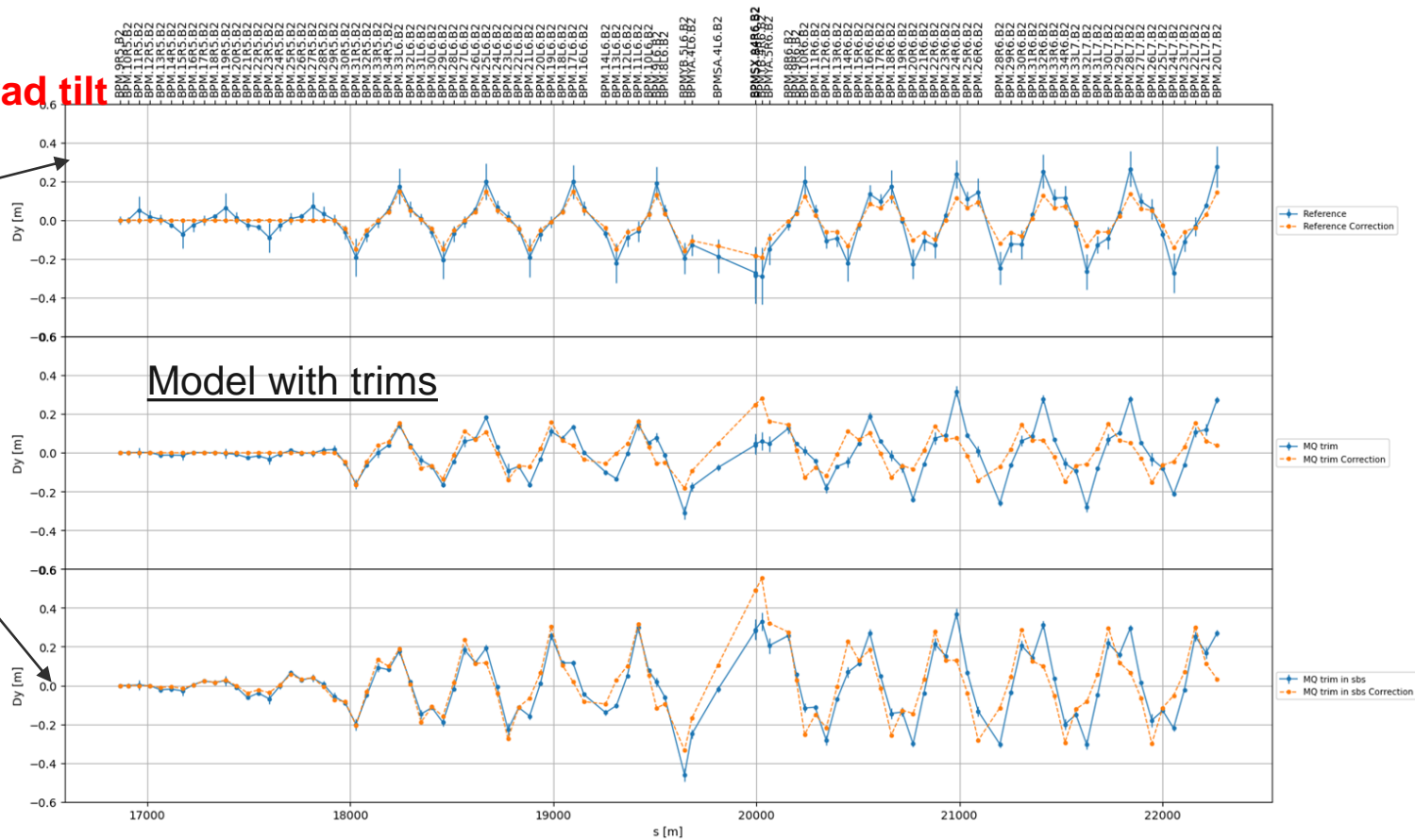
MQ trims in sbs 'corrections'



Extracted from BetaBeat SBS

MQ.29R5.B2: 15 mrad tilt

Reference model



MQ trims in sbs
'corrections'