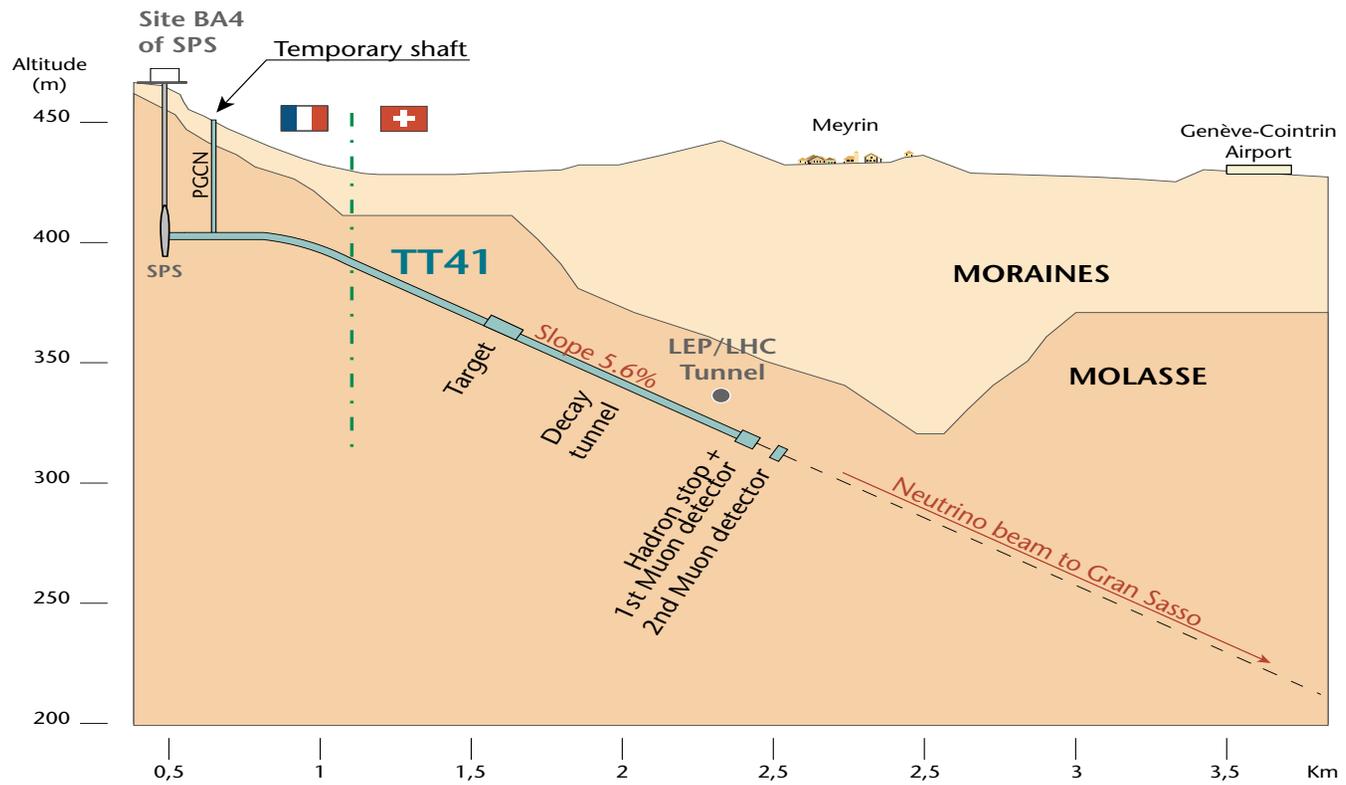


Quadrupole alignment in

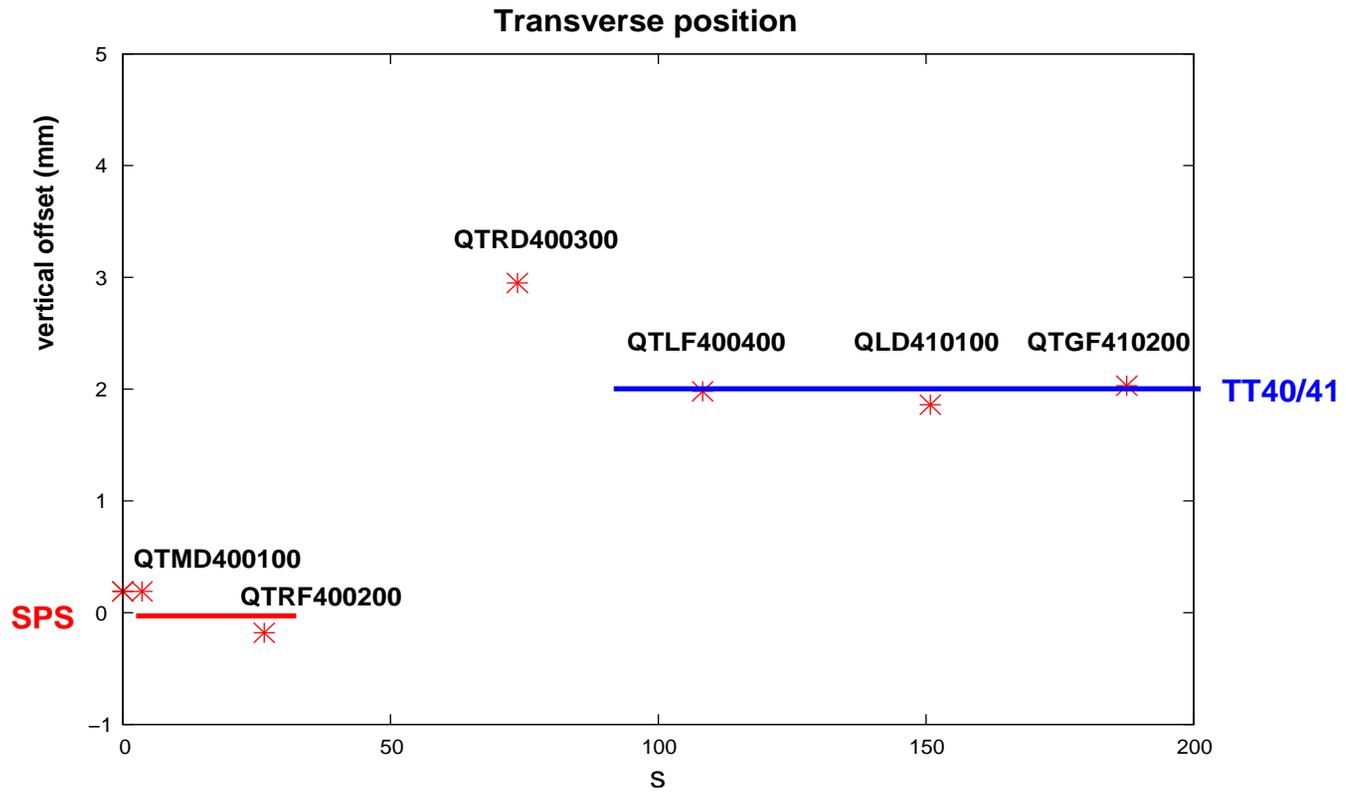
SPS - TT40 - TT41 - TI8

Werner Herr
AB/ABP

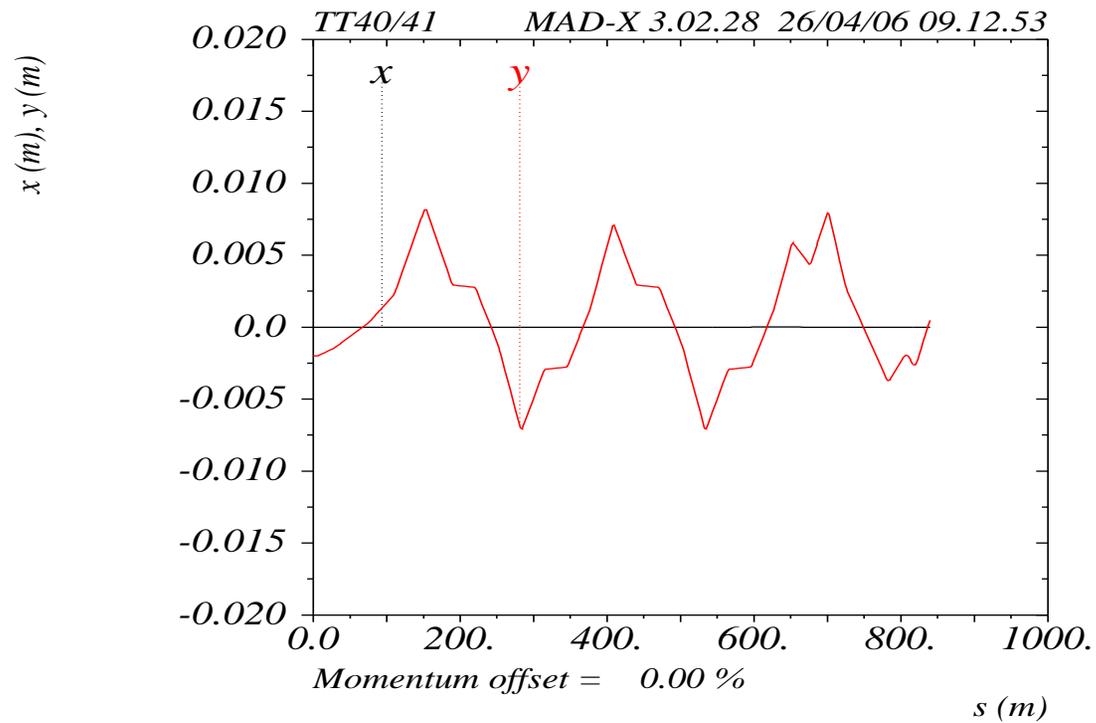
Layout



Vertical position:



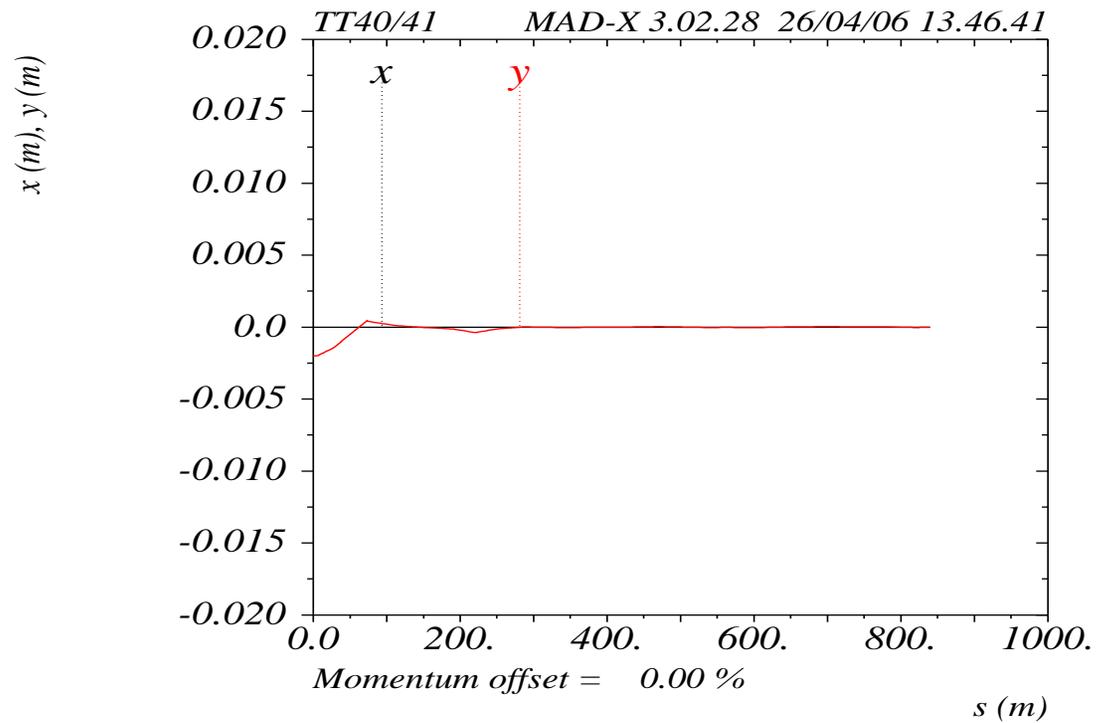
Without correction



- Orbit excursion above desired values
- Trajectory correction necessary



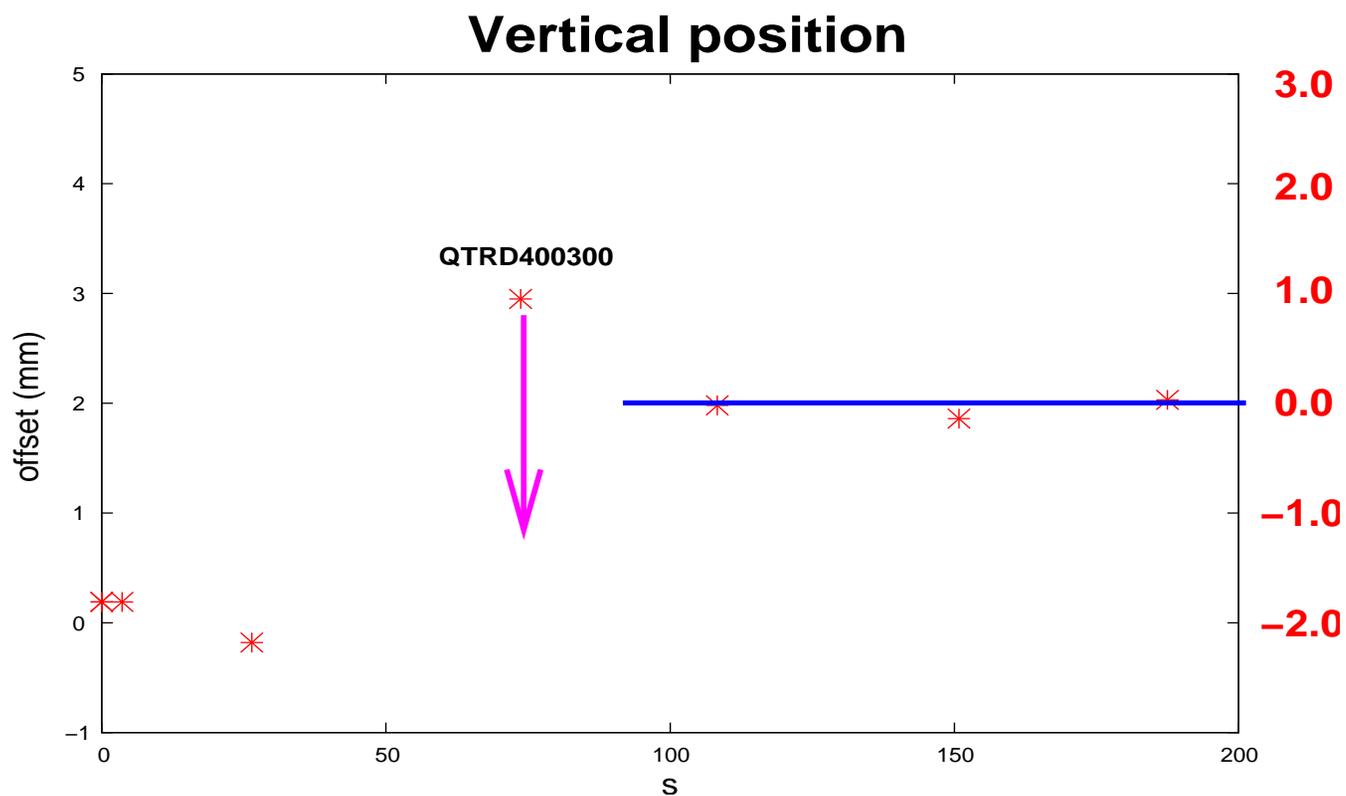
Correction with orbit correctors



- Large corrector strengths needed (near limit:
 $\approx 70 \mu\text{rad}$)



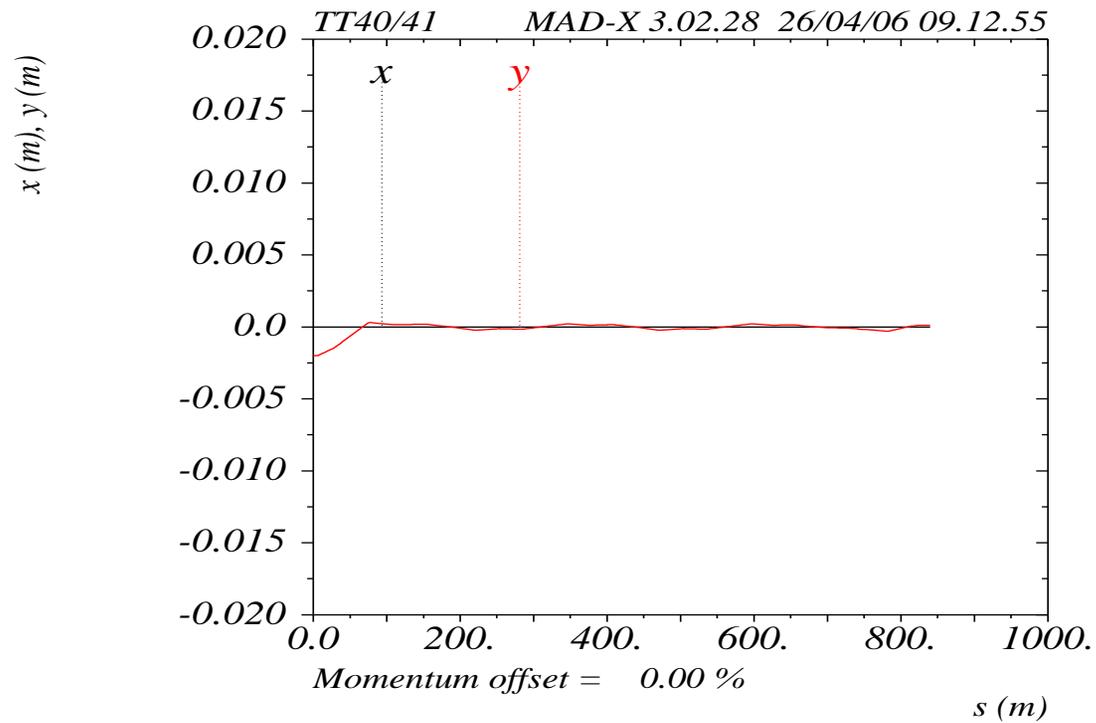
Proposed re-alignment:



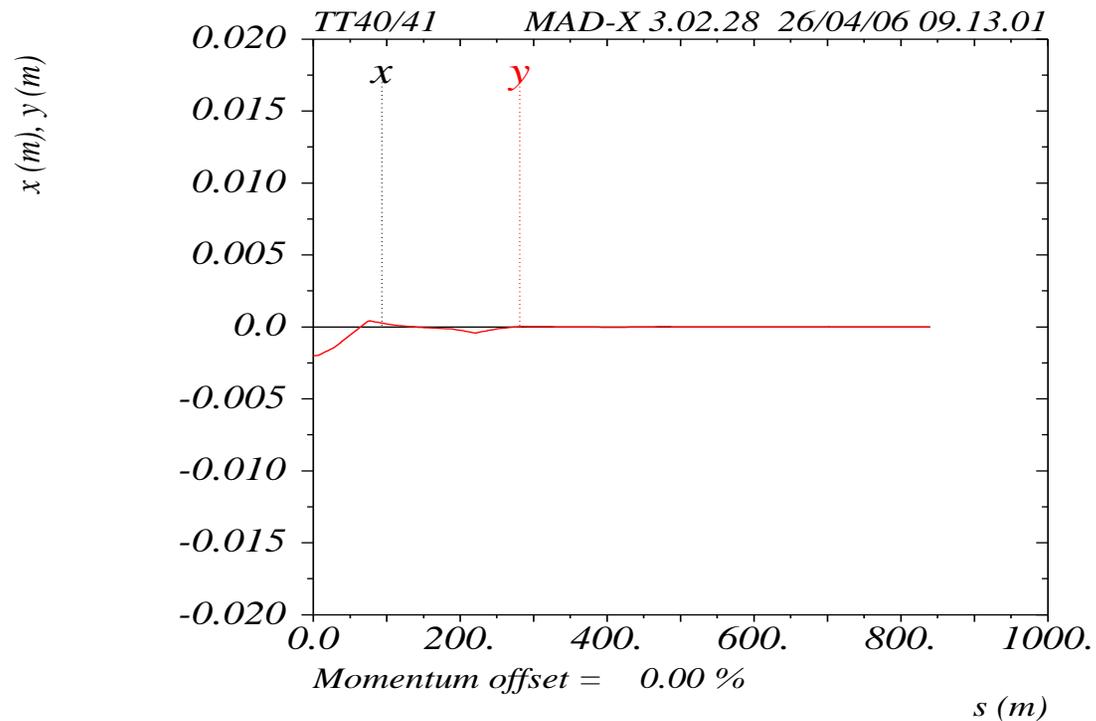
- Use TT40 as new reference in simulation



After re-alignment (no trajectory correction)



After re-alignment (with trajectory correction)



- Required corrector strengths small ($\leq 10 \mu\text{rad}$)



Proposed action:

- Shift one quadrupole (**QTRD400300**) down to -1.2 mm below TT40
- Compensates largely the offset
- Reduces the required corrector strengths

