



Fermilab

Accelerator Physics Center

Ferrara Multi-Strip Crystal for T-980

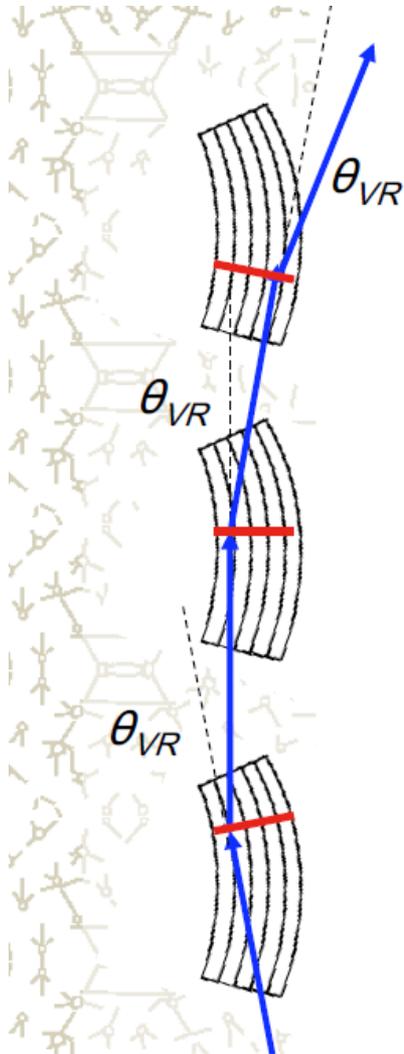
Nikolai Mokhov

T-980 Meeting

Fermilab

June 10, 2010

Concept of Multi-Volume Reflection



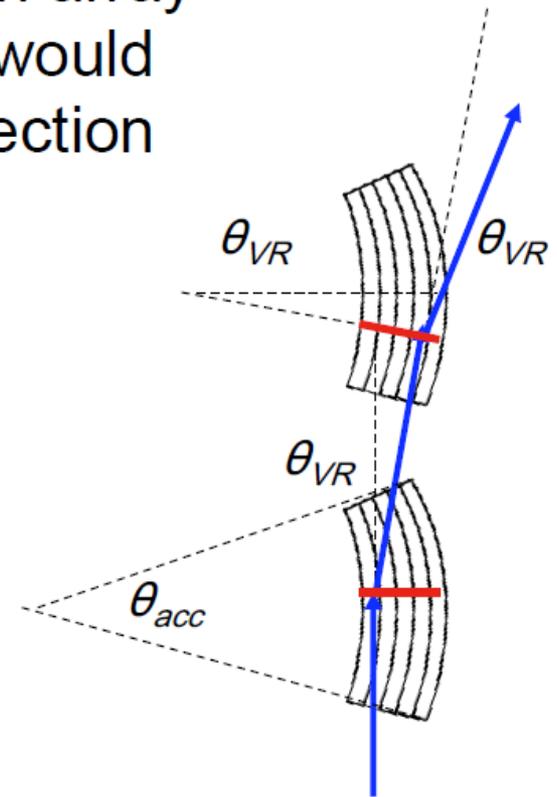
- Repeated VRs in an array of parallel crystals would result in larger deflection

At 400 GeV it holds:

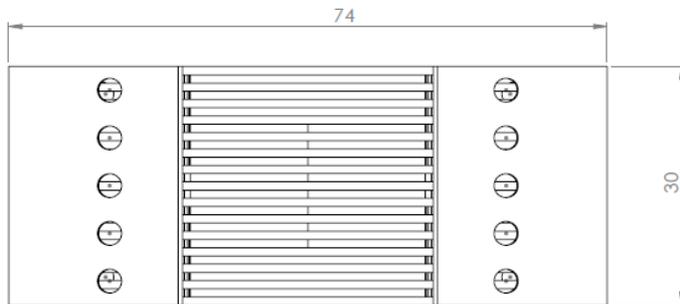
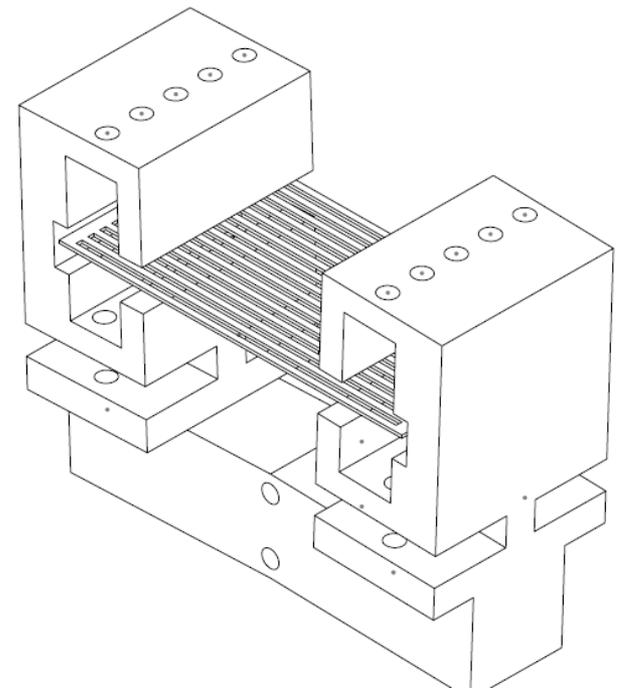
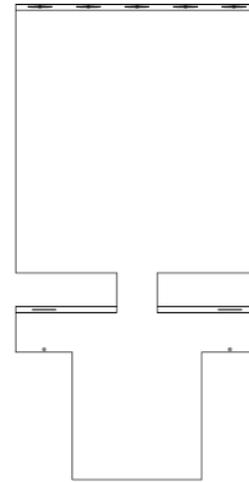
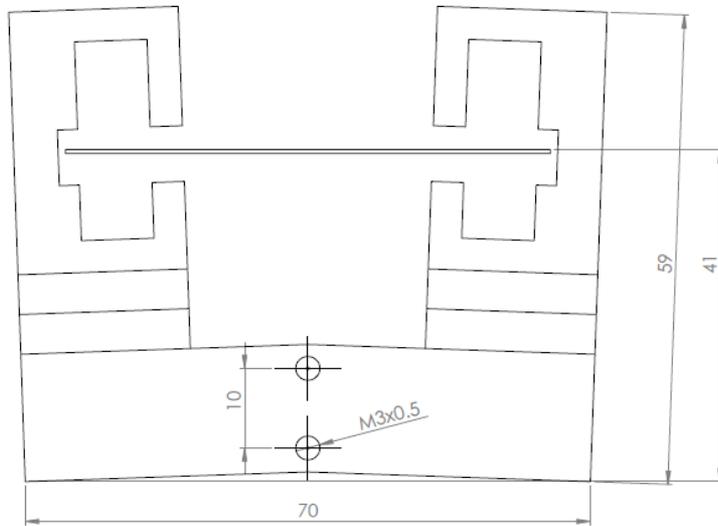
$$\theta_{VR} = 13.5 \text{ } \mu\text{rad}$$

$$\theta_{acc} = 250 \text{ } \mu\text{rad}$$

$$\theta_{VR} \ll \theta_{acc}$$



Ferrara Multi-Strip Crystal



MS-16 Specifically Designed for T-980

- ‡Two samples have been tested with optical profilometry and x-ray diffraction at Ferrara.
- ‡Tested with positrons on June 5 as a further check!
- ‡The best of the two has been chosen and brought to FNAL
- ‡It has been carefully aligned thanks to proper setting of the screws
- ‡The system proved to be highly reliable and stable but the screws must not be touched for any reason!

Characterization of VR