

BEAM SHAPING DEVICES

Devices

- 1d & 2d slits
- slits with vacuum casing
- foil collimators
- solid state collimators
- lamellar solid state collimators

Features of collimators

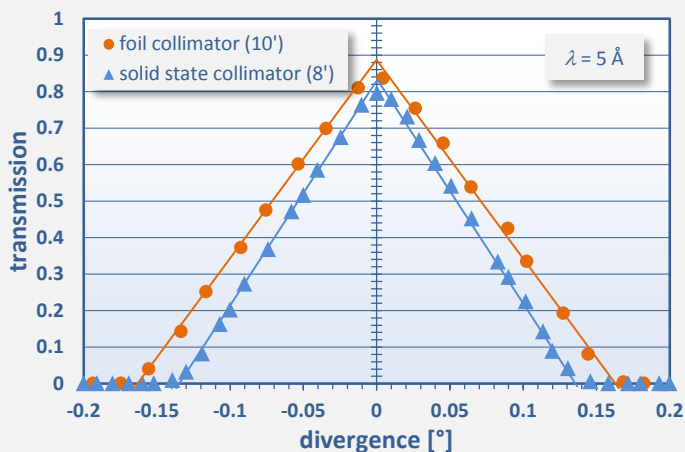
- Soller & radial collimators
- collimation as small as 3' (1 mrad)
- high transmission
- foils made from Mylar, Kapton, etc.
- solid state collimators using Si wafers:
 - $t_{\text{wafer}} \geq 0.1 \text{ mm}$
 - typical length: 10 – 30 mm
 - typical cross-sections: $10 \times 10 \text{ mm}^2 \rightarrow 200 \times 200 \text{ mm}^2$
- inclusion of magnetic guide field



foil collimator

solid state collimator

Neutron beam divergence of collimators



solid state collimators

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2d apertures – HYSPEC @ SNS



lamellar solid state collimator – KOMPASS @ FRM-II