

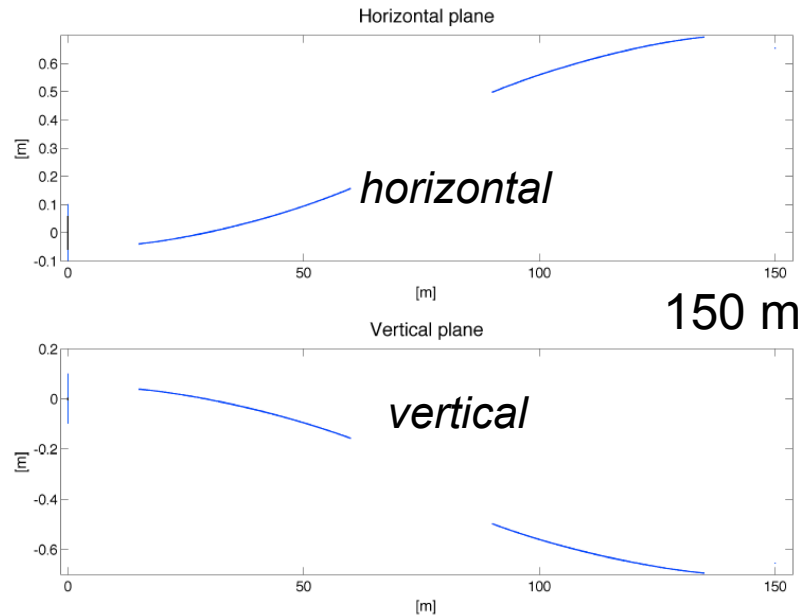
Magnetism Single Crystal Diffractometer - Thermal

Mads Bertelsen & Werner Schweika

Geometry

Selene

for perfect
polarization
by $m=4$ Fe/Si



FoM flux on sample

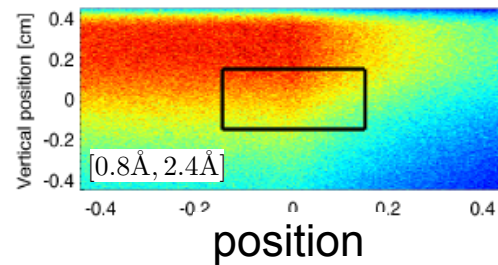
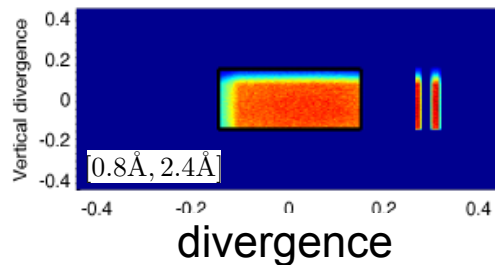
$3 \text{ mm} \times 3 \text{ mm}$

$\pm 0.15^\circ$

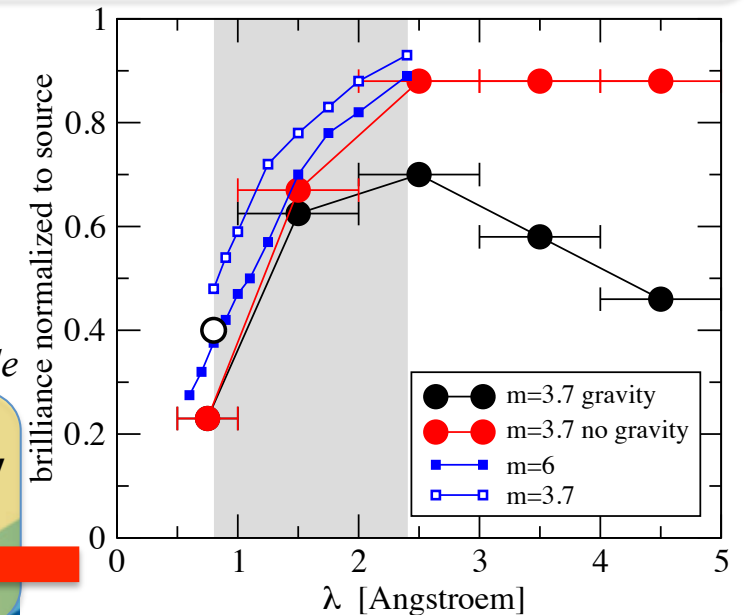
$0.8 \text{ \AA} < \lambda < 2.4 \text{ \AA}$

brilliance normalized to source is
independent of moderator height
for $1 \text{ cm} < h < 12 \text{ cm}$

McStas performance check



is not perfect yet
seems there is a flaw in the Selene module



The instrument will **fully** gain from the higher luminosity of a reduced source height at least down to 1 cm.

Magnetism Single Crystal Diffractometer - Cold

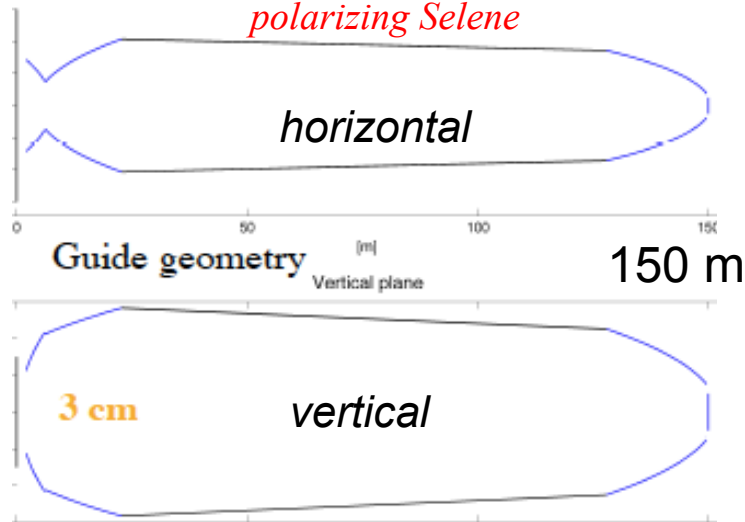
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*to be replaced by
polarizing Selene*

Geometry

defocusing
straight
focusing

McStas optimized

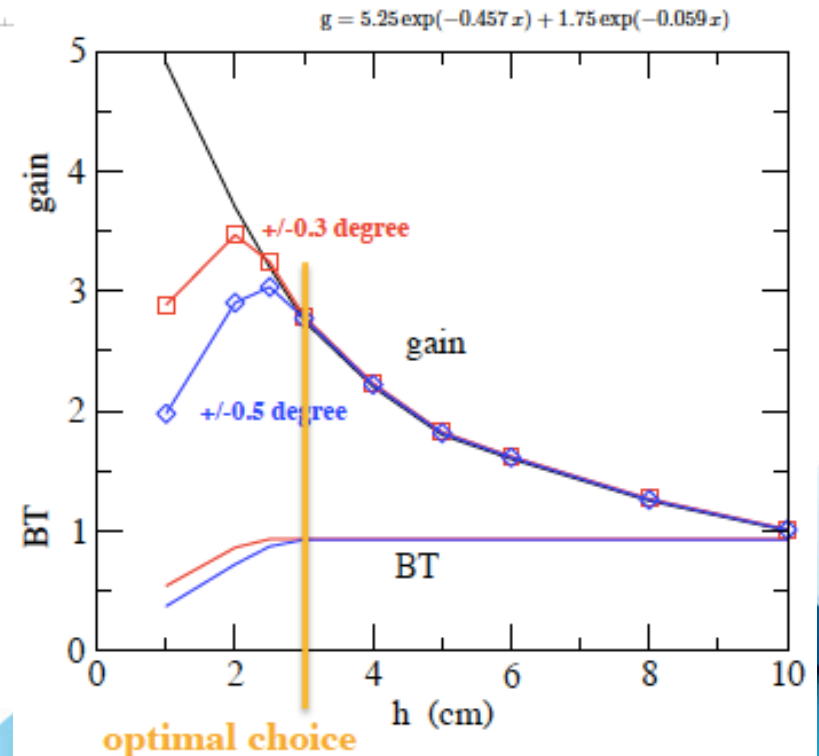
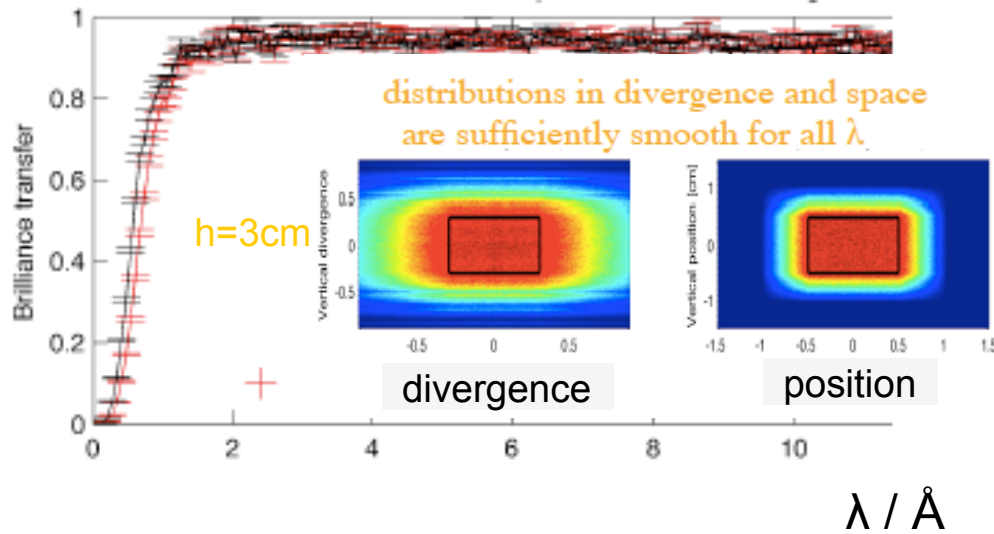


FoM flux on sample

1 cm²

±0.5°

2.4 Å < λ < 10 Å



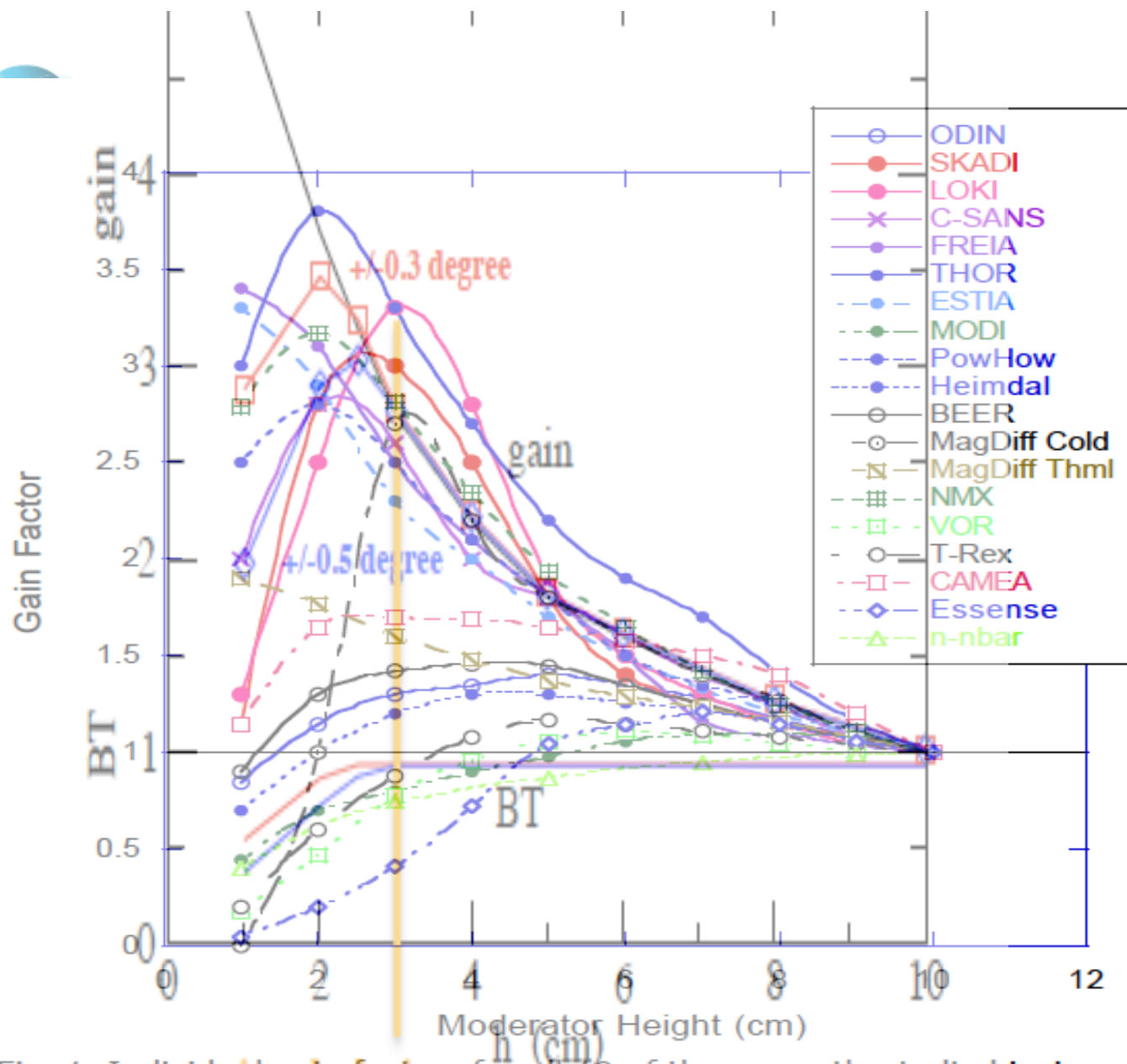


Fig. 1. Individual optimal gain factors for all 19 of the currently studied instruments

optimal choice