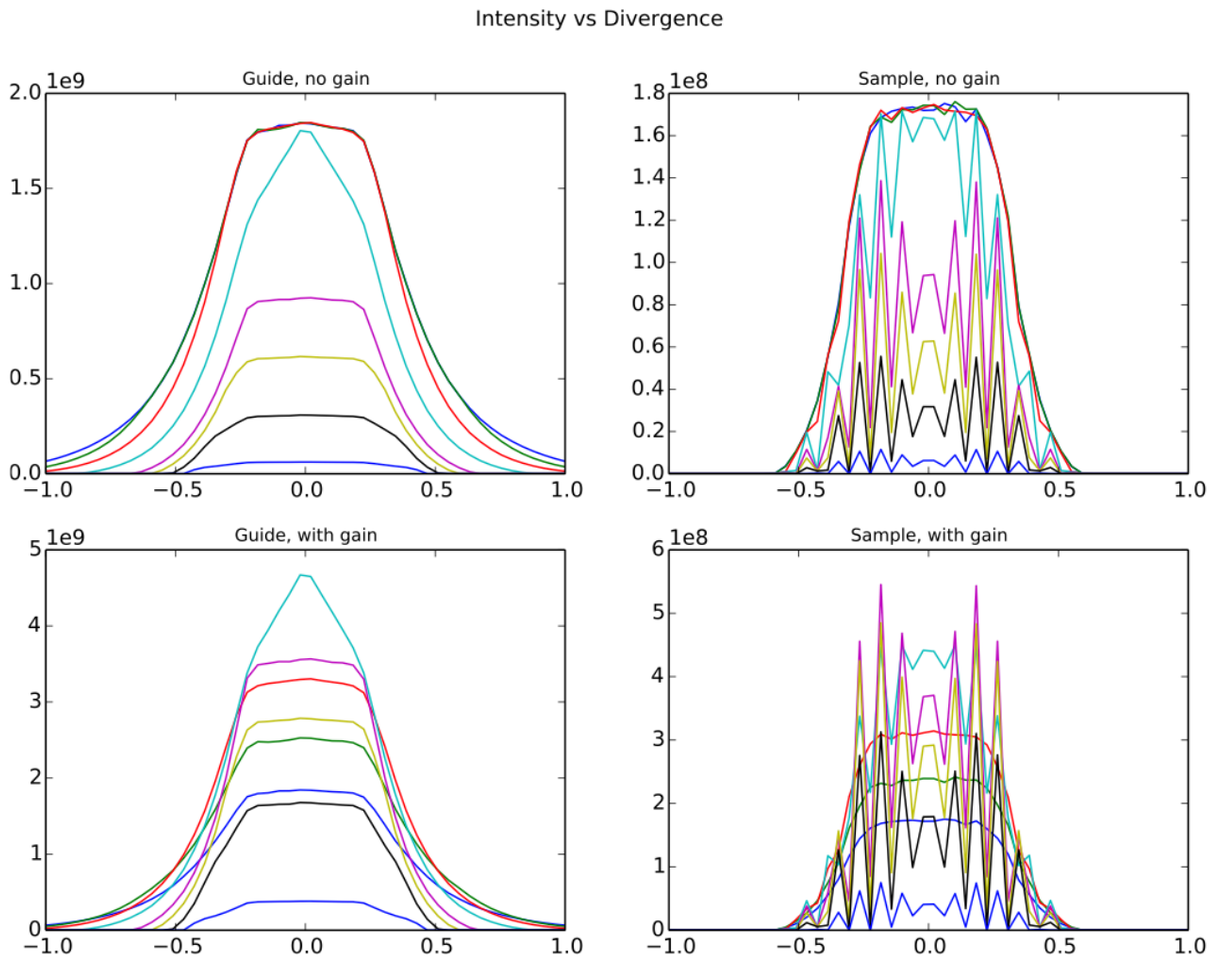
Effect of Moderator Size on SANS

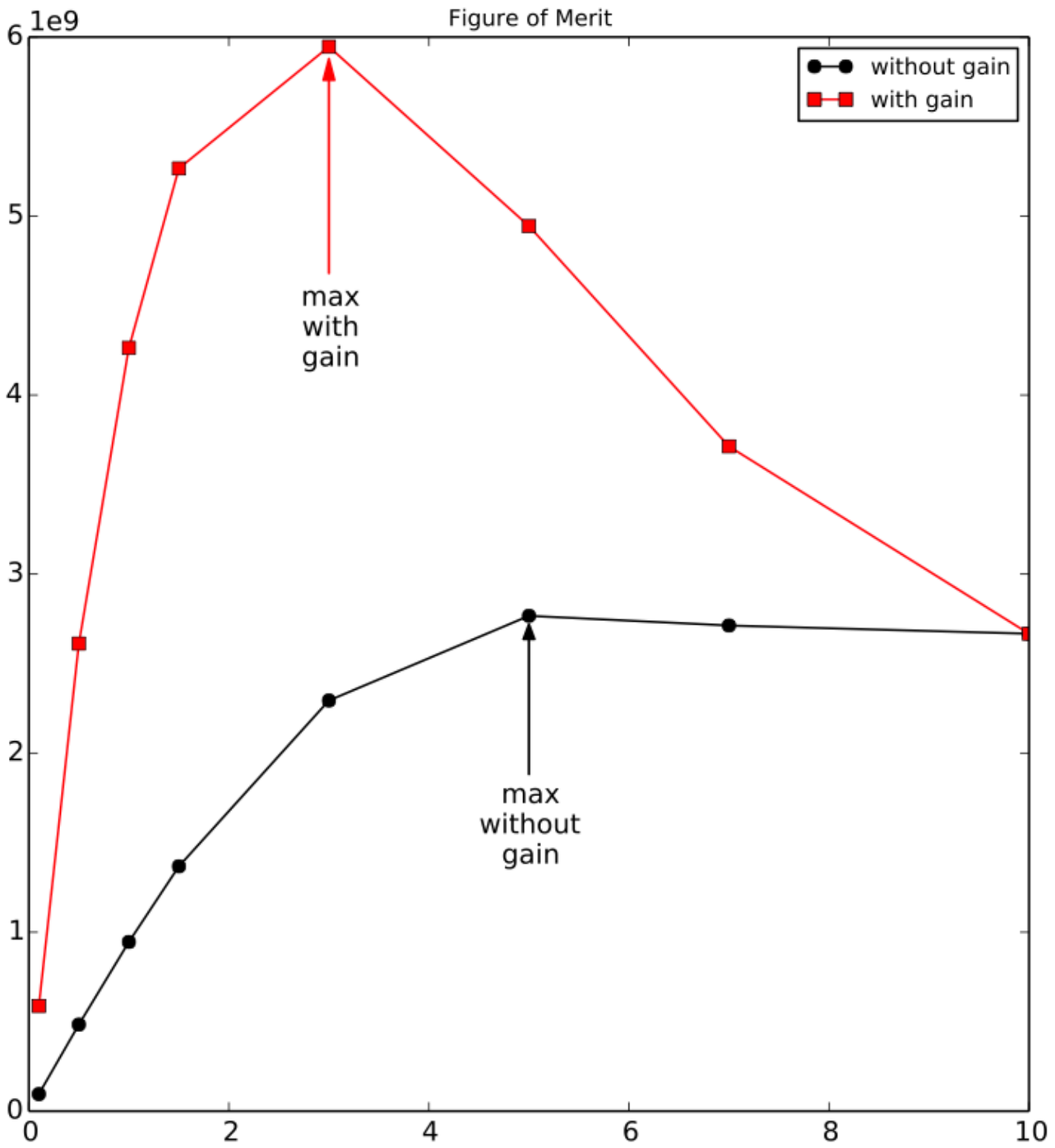
AJJ Jan 2014

- ESS Source Component
- Straight Guide
- Collimation Apertures
- Divergence/Lambda monitors at guide exit and sample position



$$FOM = I_{sam} \frac{\sum_{\theta=-\theta}^{\theta} I_{guide}(\theta)}{I_{guide}}$$

		A_1(cm)	A_2(cm)	L_1	θ (°)	λ_1(Å)	λ_2(Å)
LoKI	**Max**	3.0	1.0	2	±0.57	2.0	13.0
	Typ	1.0	0.5	5	±0.09	2.0	13.0
	Min	1.0	0.5	10	±0.04	2.0	11.5
SKADI	**Max**	3.0	1.0	4	±0.29	2	10.0
	Typ	2.0	1.0	8	±0.11	2	9.5
	Min	2.0	1.0	20	±0.04	2	7.0
Compact	**Max**	2.0	1.0	1	±0.86	3	19.0
	Typ	1.0	0.5	1	±0.43	3	19.0
	Min	1.0	0.5	4	±0.11	3	16.5



LoKI
Instrument Parameters

Guide Height = 3 cm
Collimation Length = 2m
Source Aperture = 3cm x 3cm
Sample Aperture = 1cm x 1cm
Max Divergence = 0.57 deg

Optimum moderator height:
baseline = 5 cm
pancake = 3 cm