Moderator optimization for FP

Simulated setup with McStas (1)

Moderator

Source

1

Neutron guide

2

Sample

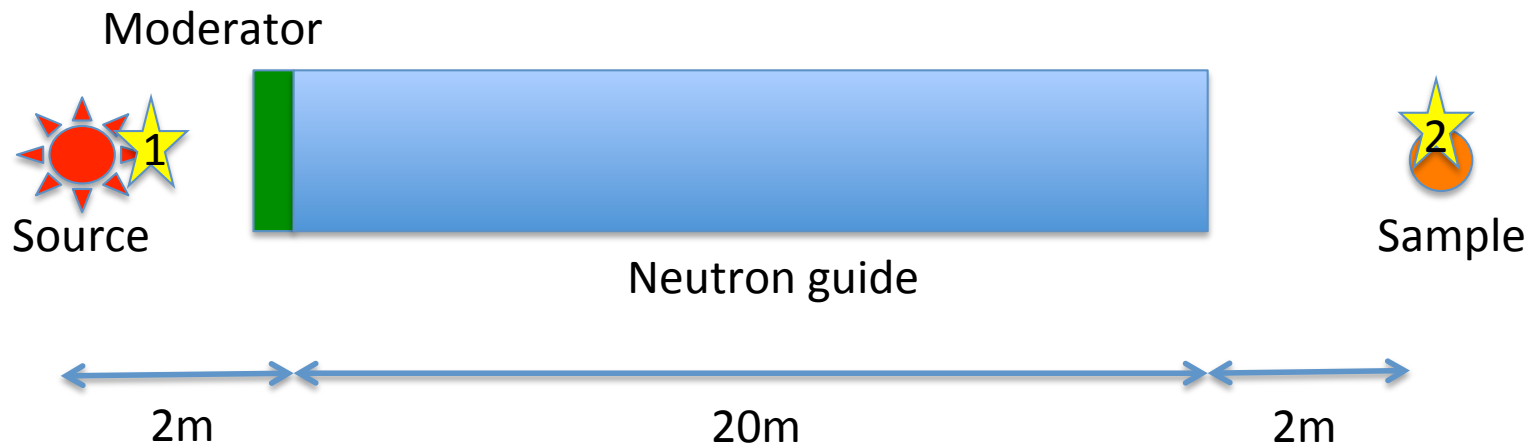2m 20m 2m

Monitor position

For an NPDγ experiment for instance

EUROPEAN
SPALLATION
SOURCE

Simulated setup with McStas (2)

Simulated setup with McStas (3)

2m 4m 6m 8m

Moderator

Source

Neutron guide

2m   20m   8m

For PERC experiment for instance

Flux taken inside the decay volume : average of the 5 monitors
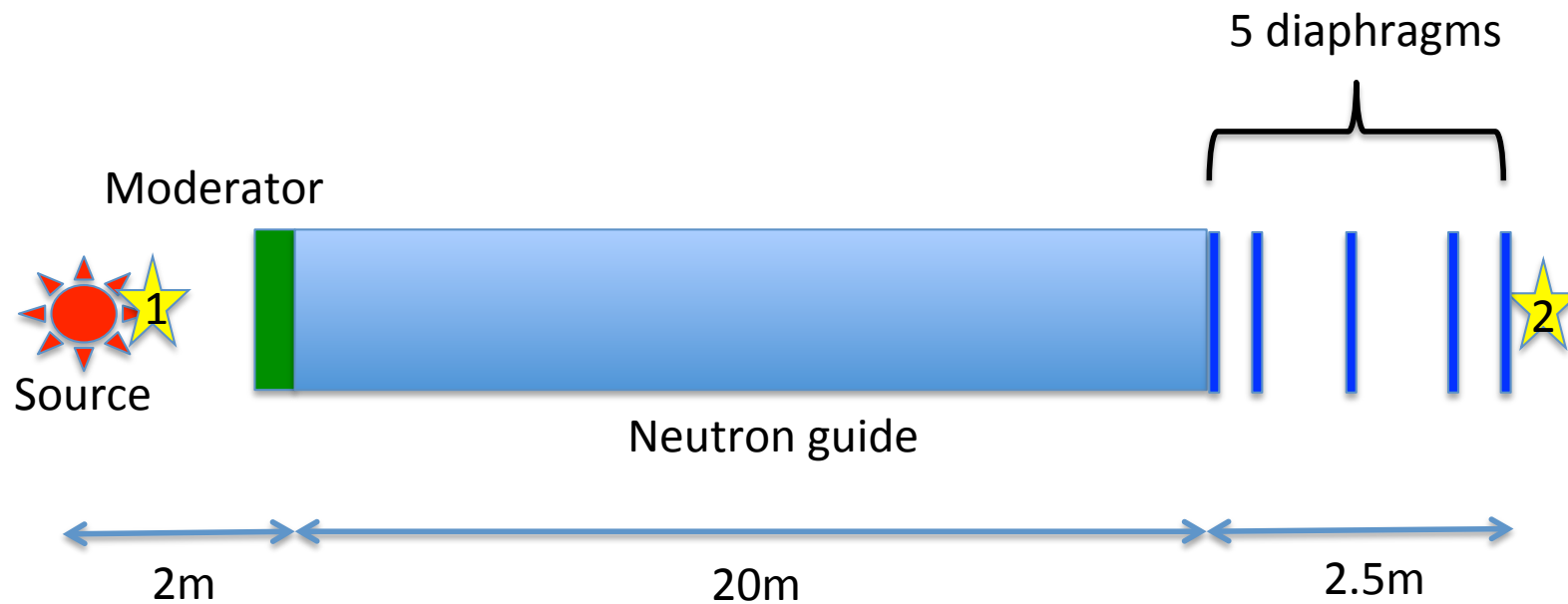
Monitor position

Simulations results

Gain factors for different moderator heights

The best results are obtained with a moderator height of between 7 and 10 cm.
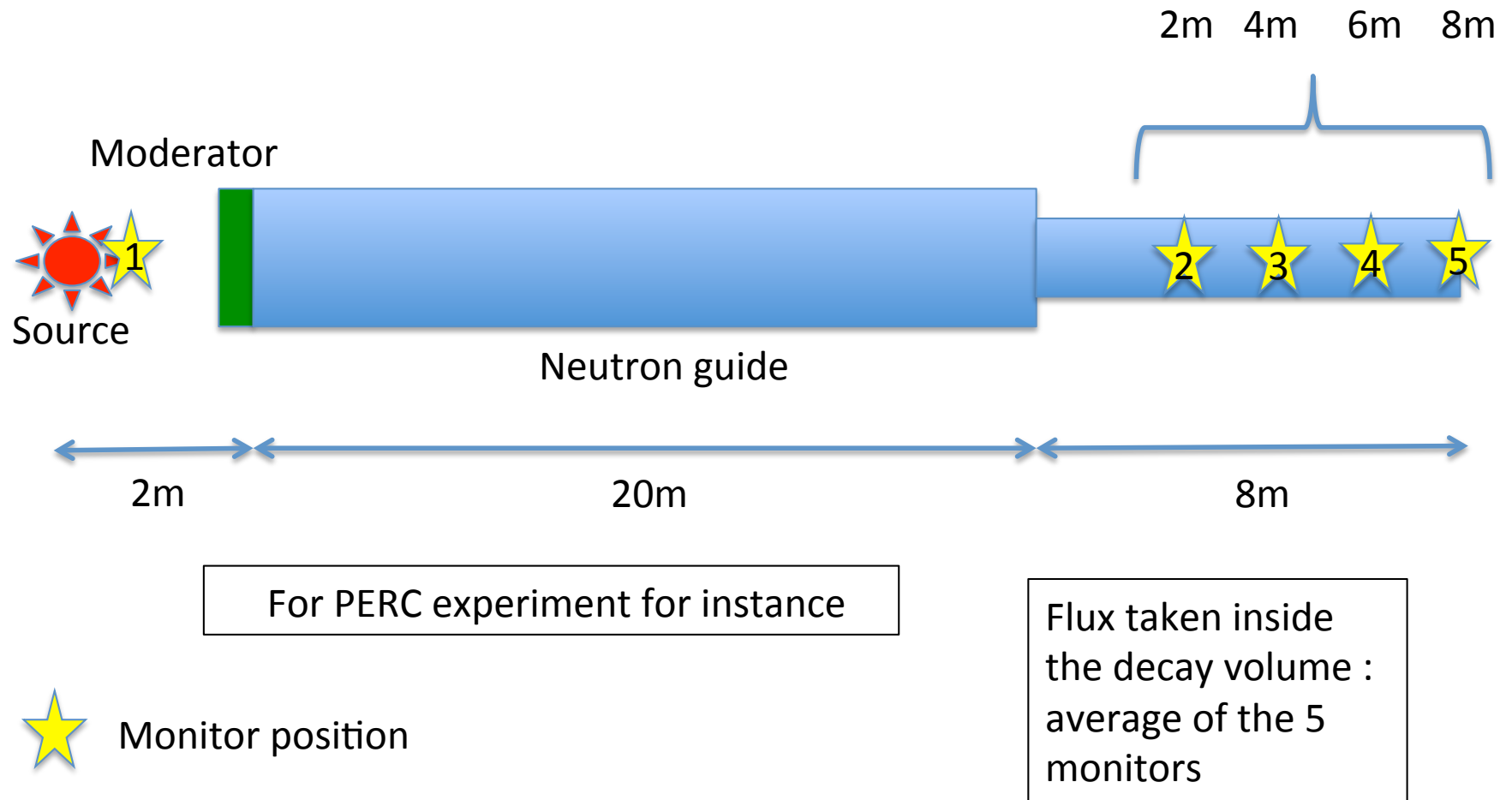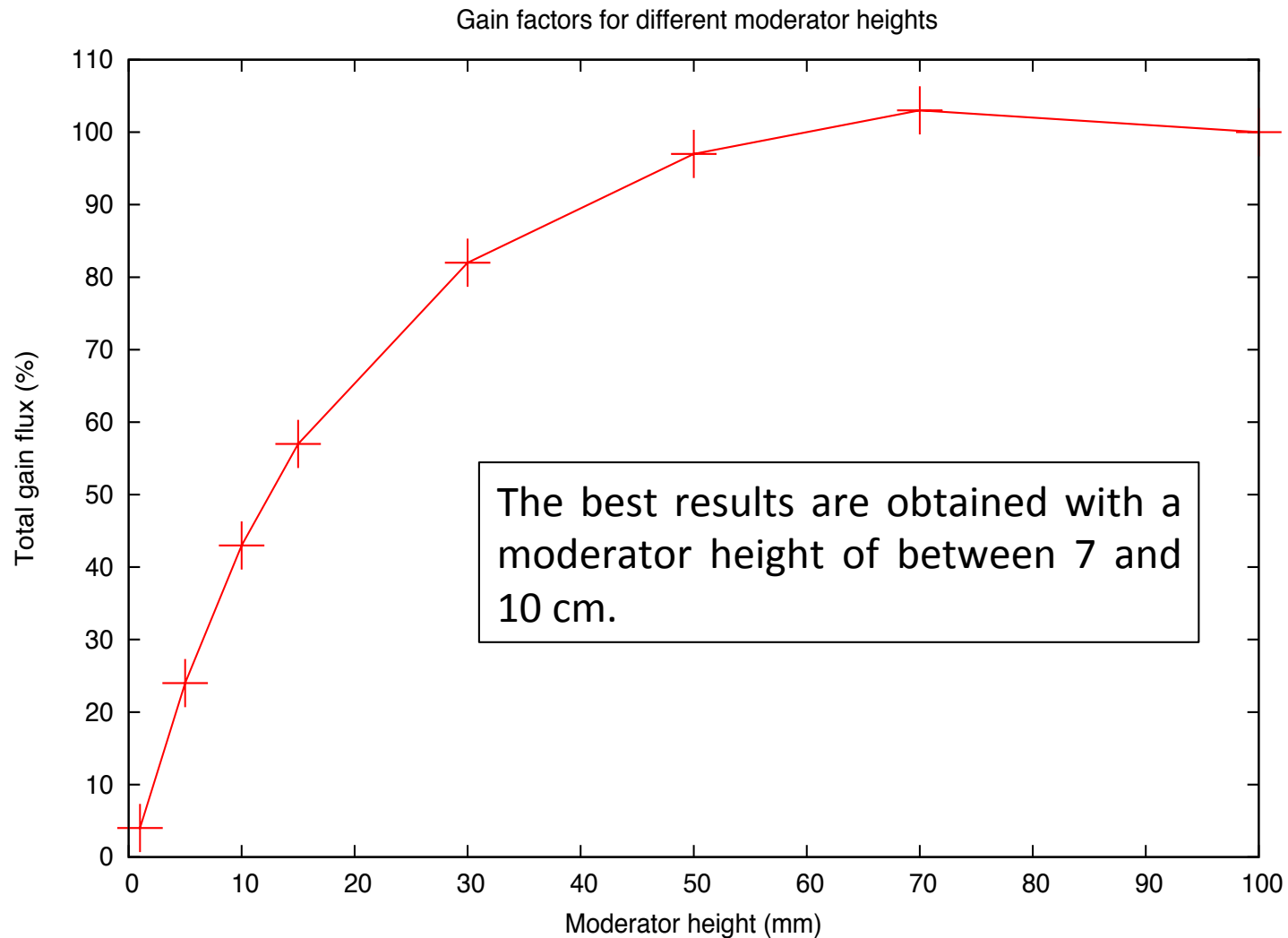
The weighting takes into account both the spectral distribution and the importance of the various wavelengths for the specific experiments.

The FoM curve combines 3 cases. equal weighting was used here.