Improved ESS source for McStas

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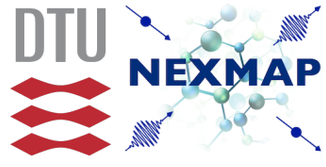
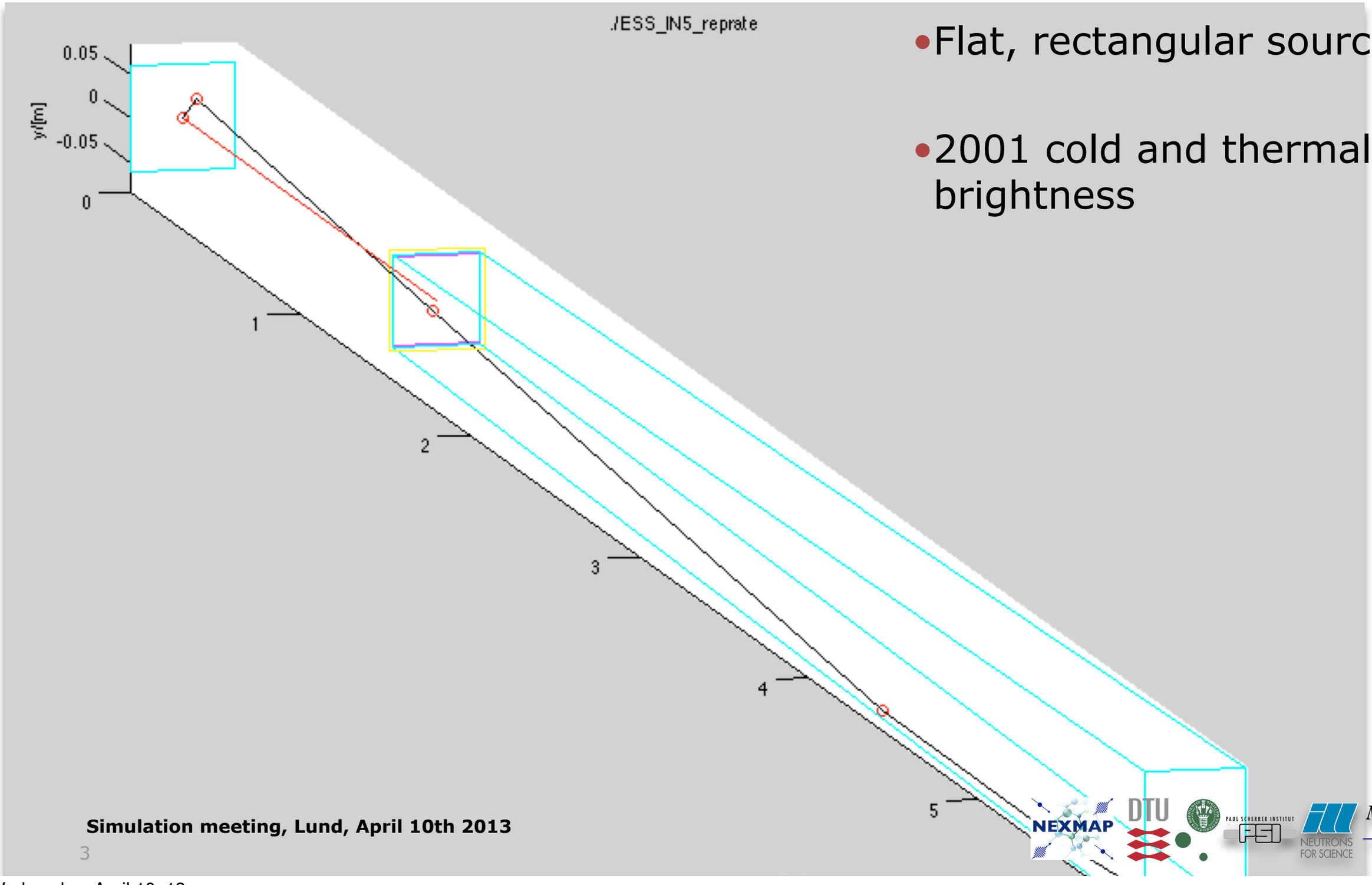


Agenda

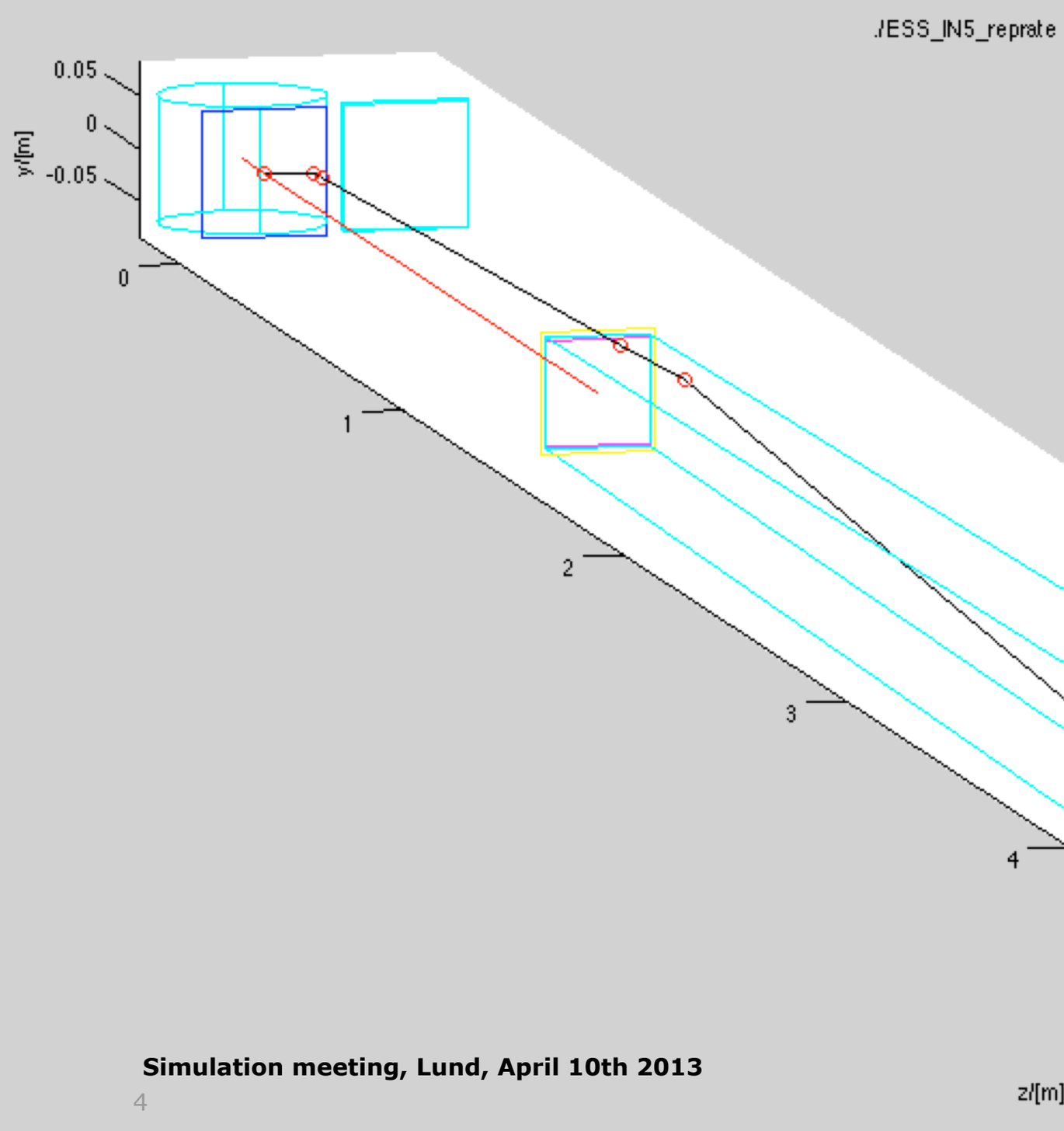
- The 1.12c source
- The 2.0 source
- The 2.0a source

The 1.12c source (released)



- *Either* cold or thermal
- Flat, rectangular source
- 2001 cold and thermal brightness

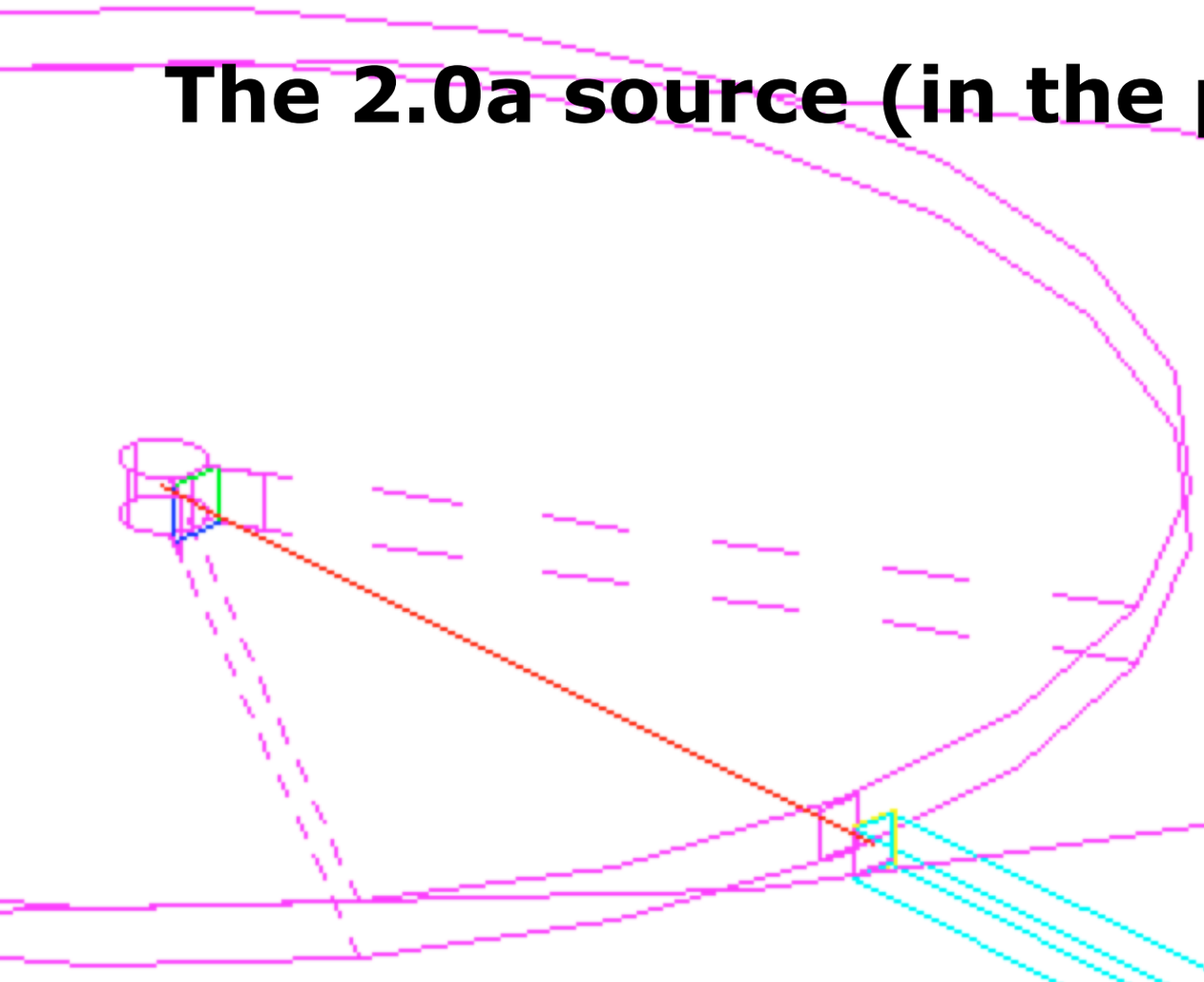
The 2.0 source (released)



- Cold *and* thermal moderators
- Cylindrical cold source
- Flat thermal *wing*
- 2012 cold and 2001 thermal brightness

- Hard to use / align for thermal instruments

The 2.0a source (in the pipe)

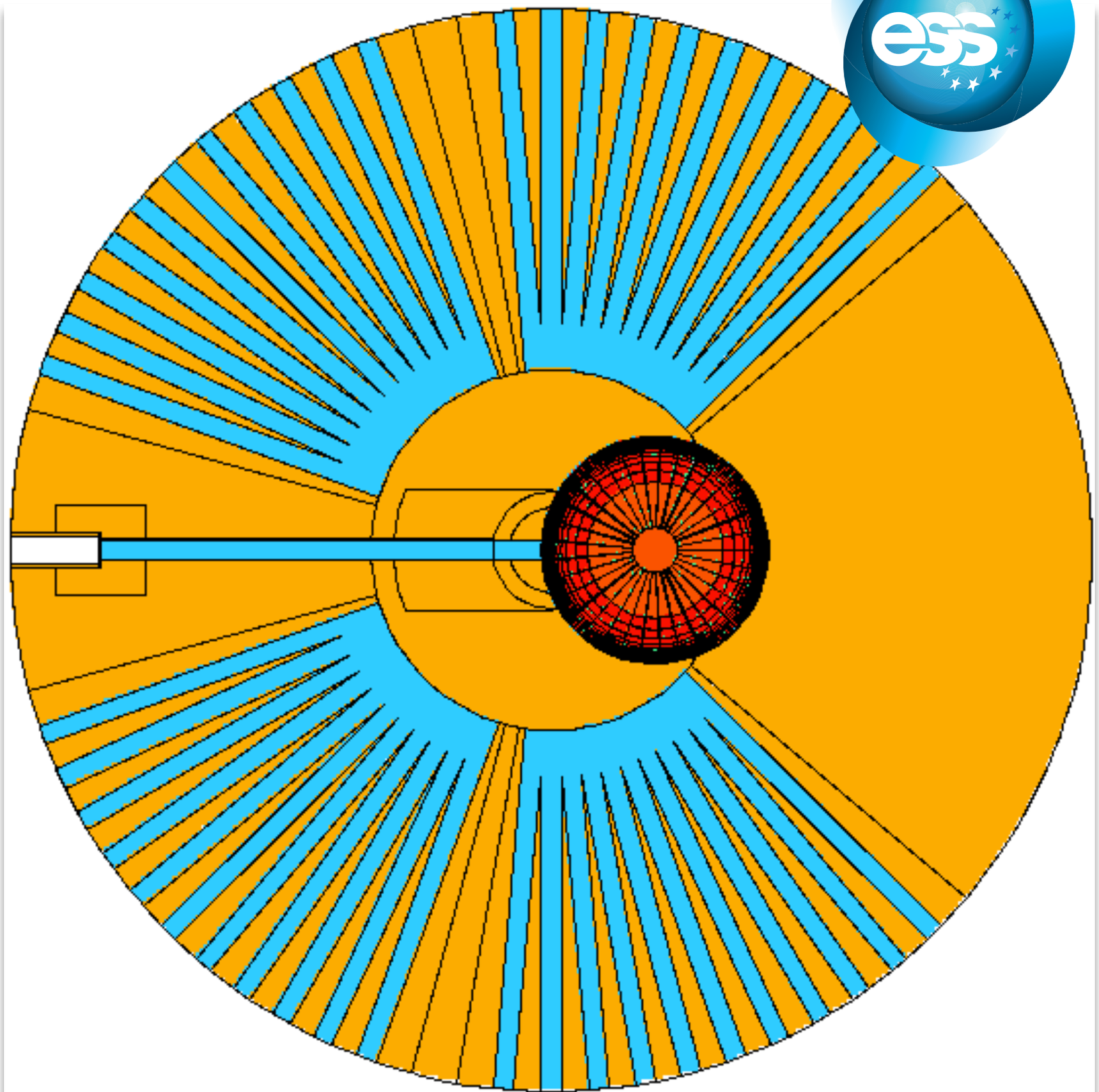


- Cold *and* thermal moderators
- Cylindrical cold source
- Flat thermal *wings*
- Geometry close to that from MCNPX
- 2012 cold and 2013 thermal brightness (thermal was just released by target??)

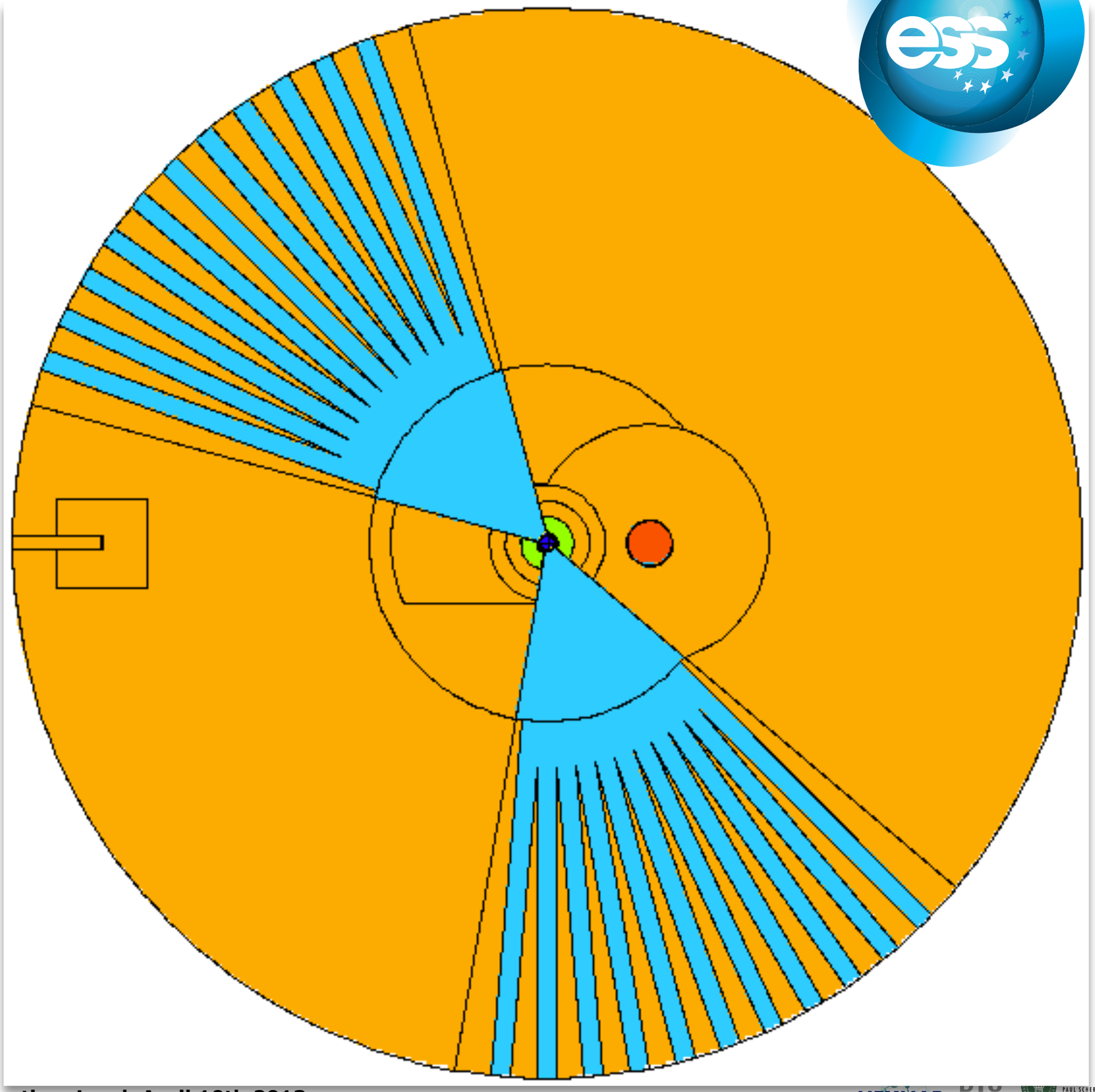
- Easier to align for both cold, thermal and bispectral instruments

- Later: space-dependent brilliance from the moderators

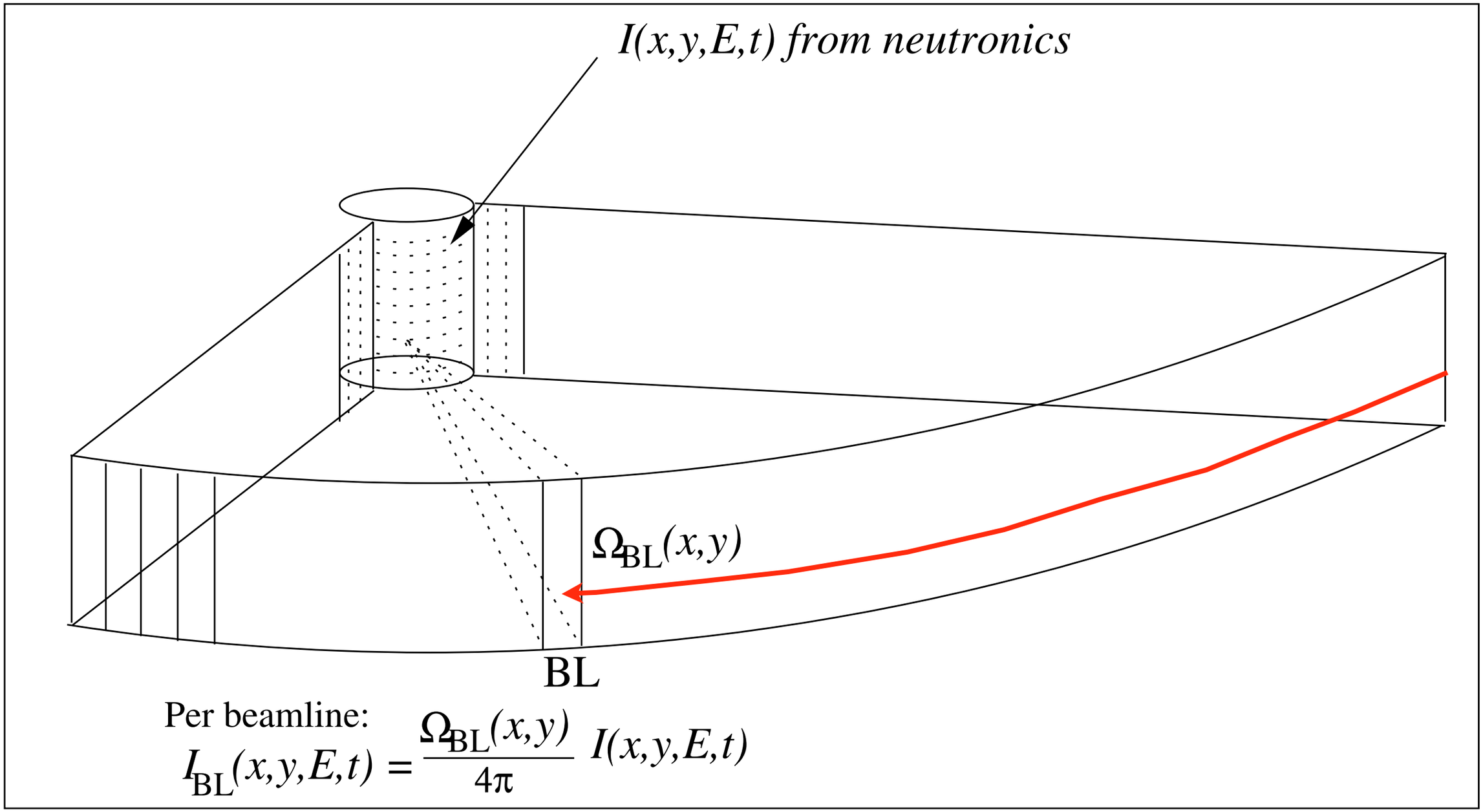
EUROPEAN SPALLATION SOURCE



EUROPEAN SPALLATION SOURCE



The 2.0a source (in the pipe)



Per beamline:

$$I_{\mathrm{BL}}(x,y,E,t) = \frac{\Omega_{\mathrm{BL}}(x,y)}{4\pi} I(x,y,E,t)$$

Overview of full monolith, including in-pile optics, shielding etc.