

K⁰L CPS Meeting Nov 14'2022

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Critical Parameters for the Final Design

- Beam line **opening diameter**. Needs to be fixed before the design starts. It defines geometry and heat loads.
- Raster size or non-raster FWHM. Also defines geometry and heat loads.
- Limits on the radiator thickness (or is it fixed?). Defines heat loads and radiation shielding needs.
- Limits on the power for the cooling system. Can Aluminum cooling line be used for copper or CuW.
- Absorber material: can we afford CuW?
- Proceed with detailed calculations after these are answered

CPS Toy Model, Nov. 14 2022

Color corresponds to material density

Borated Poly: Pink

Concrete: Blue

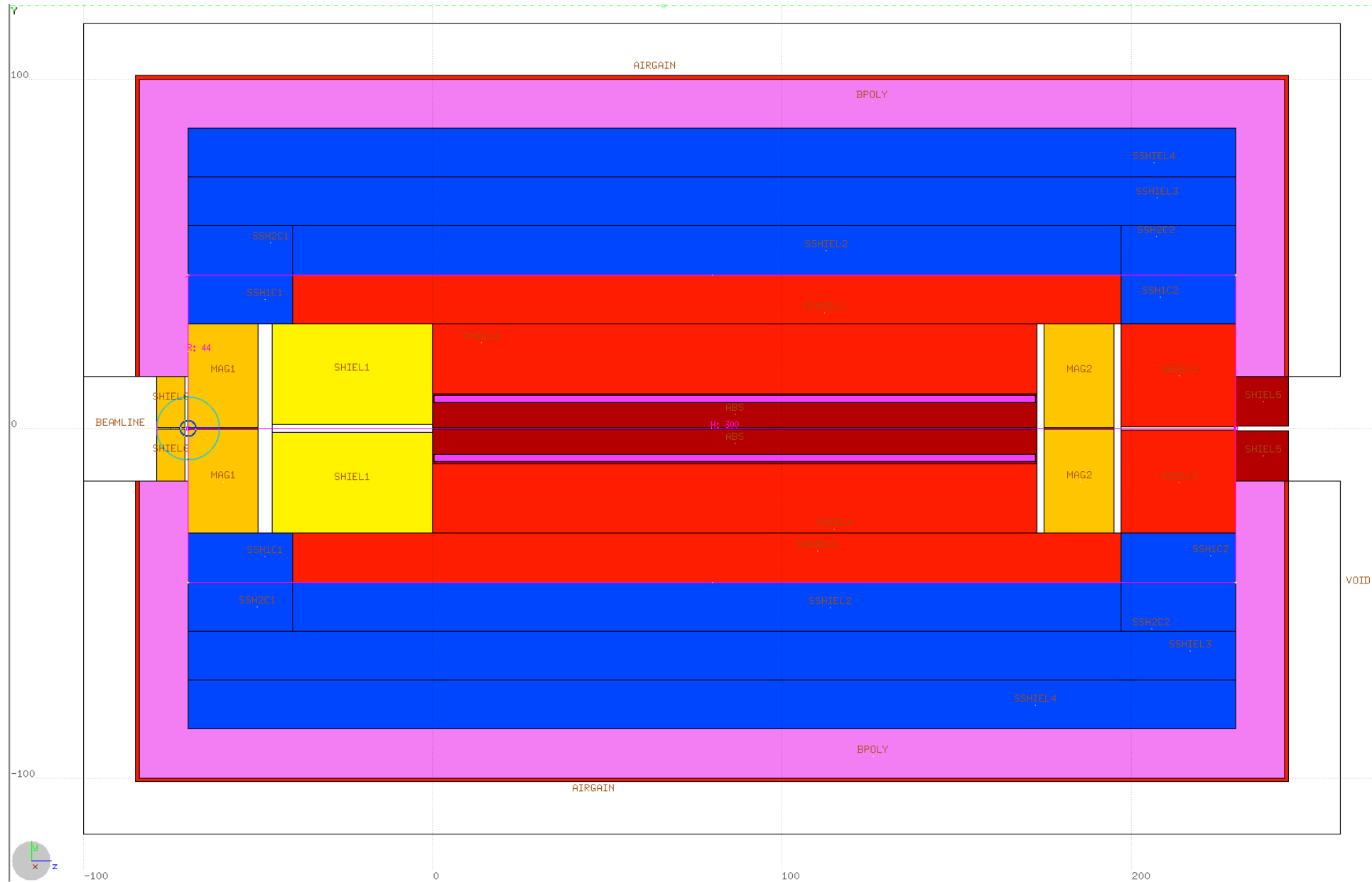
Iron: Yellow

Copper: Light Brown

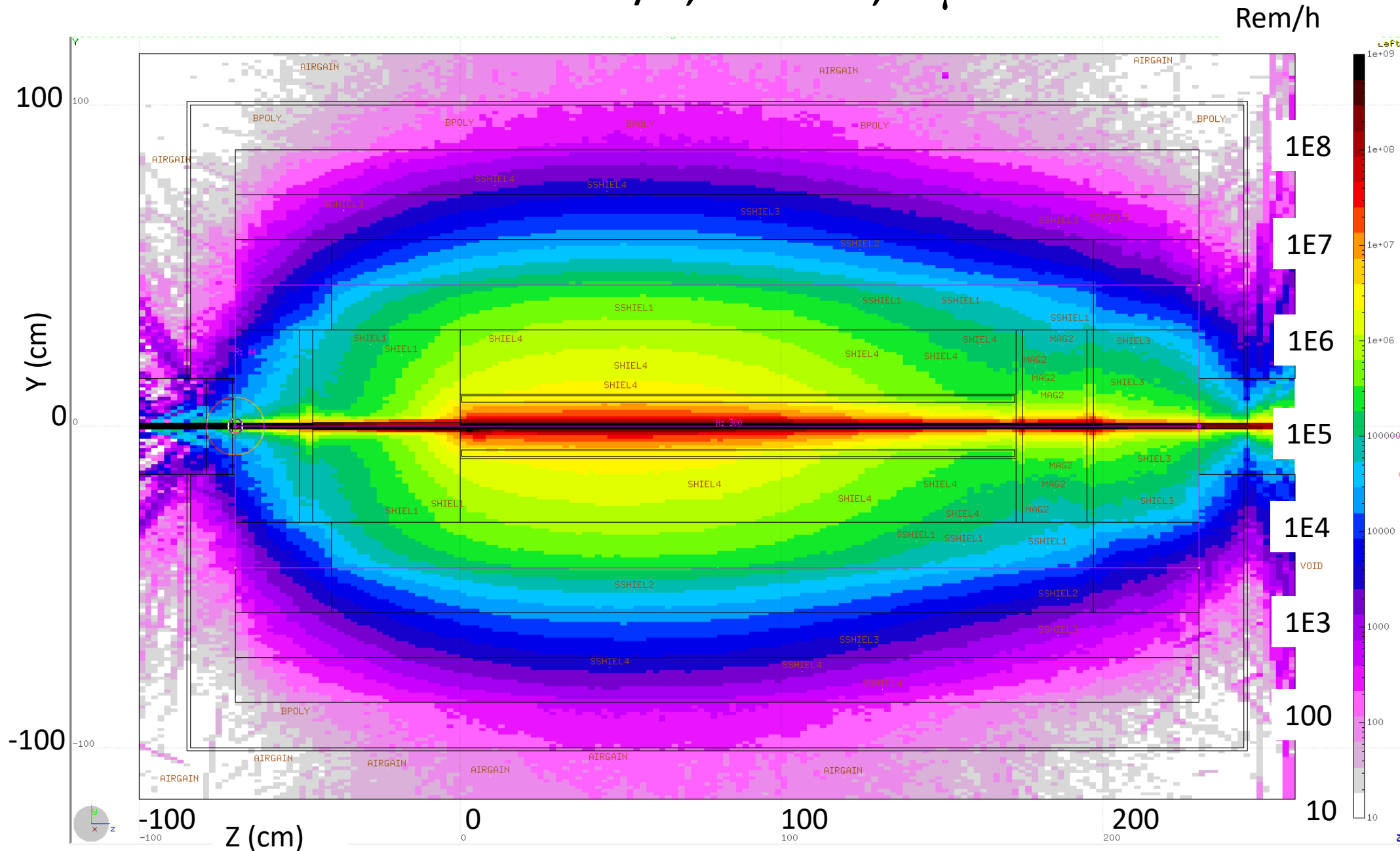
Lead: Red

Water: Pink

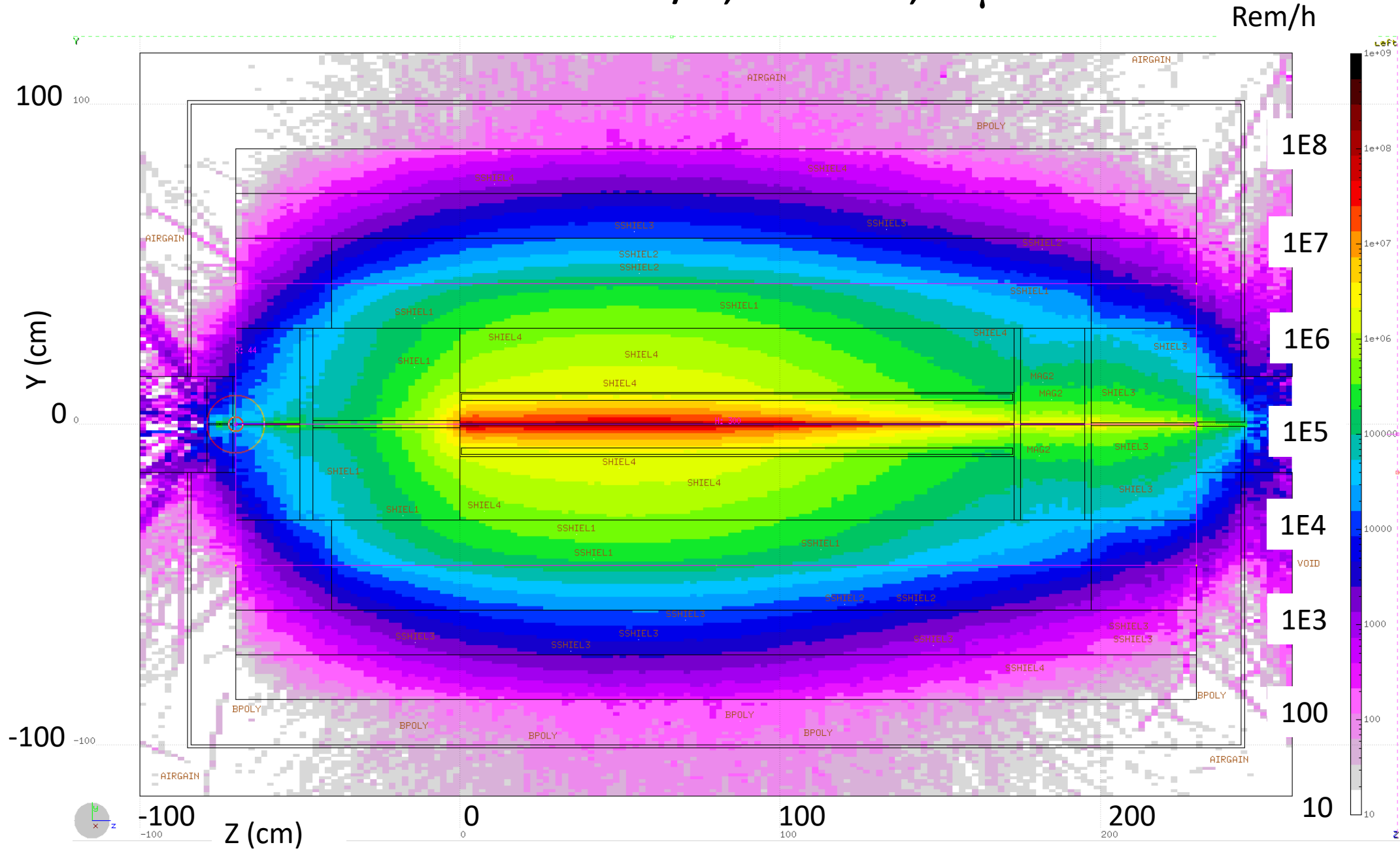
CuW Alloy: Dark Red



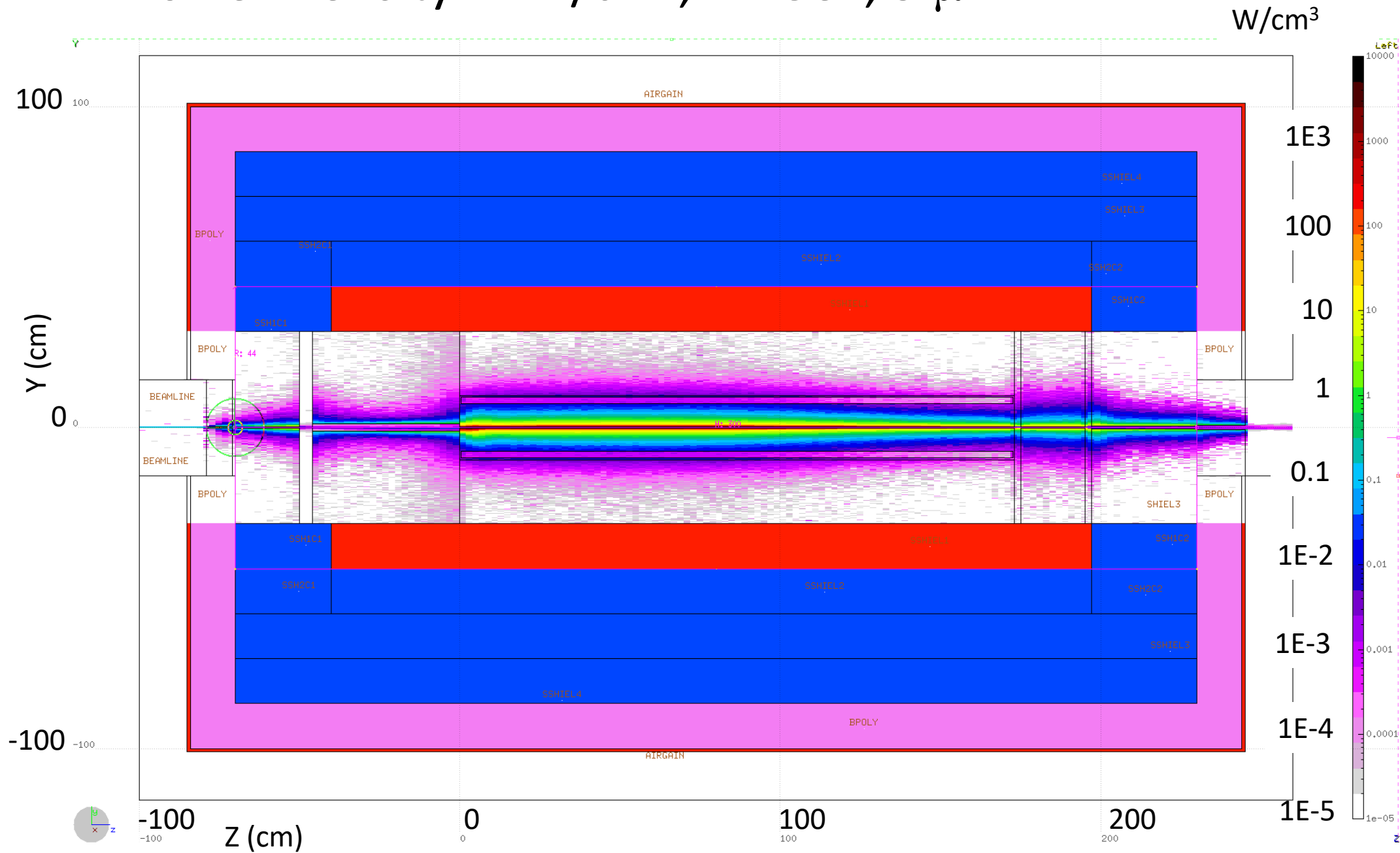
Total Dose Rate in rem/h, 12 GeV, 5 μ A



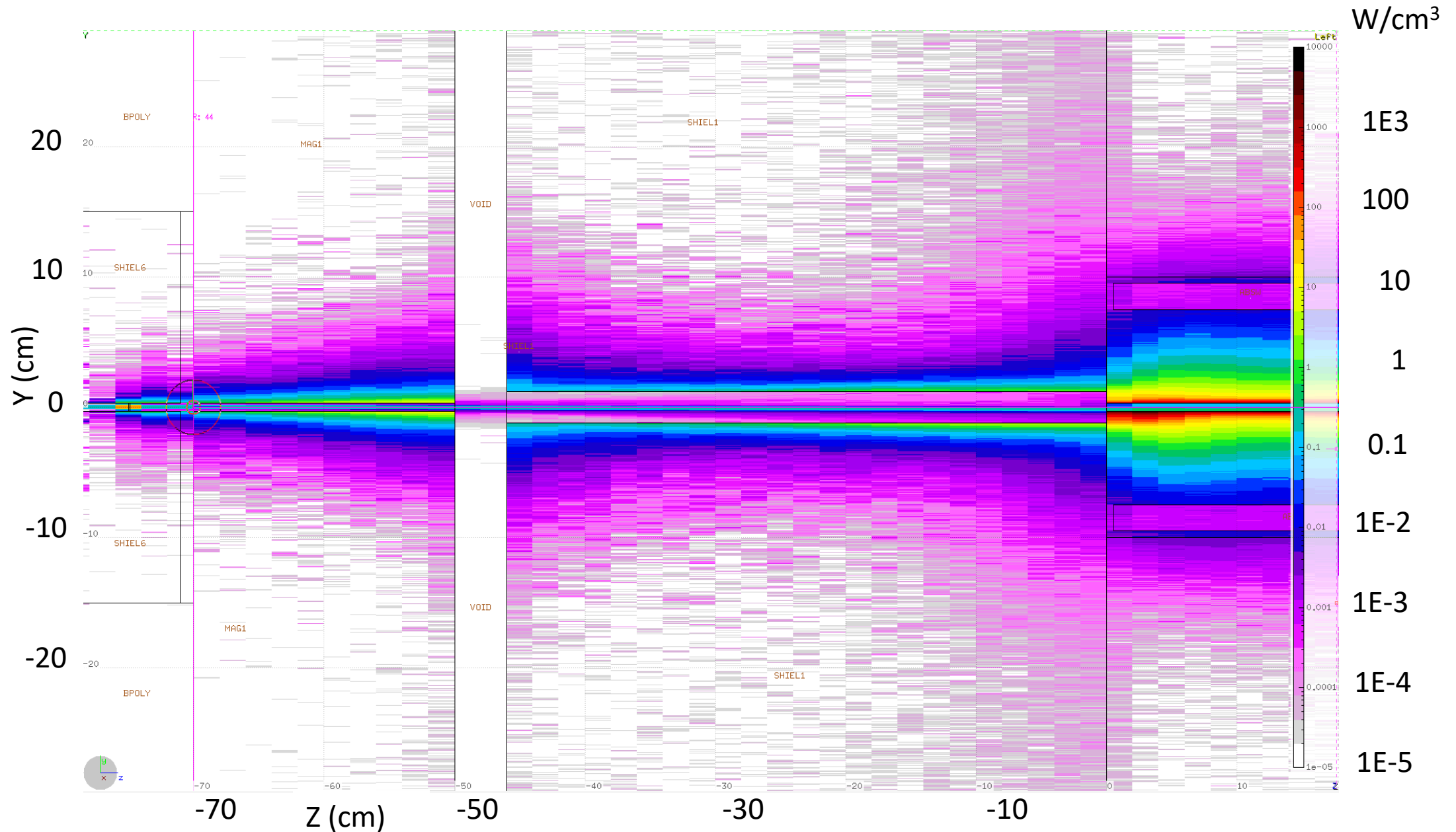
Neutron Dose Rate in rem/h, 12 GeV, 5 μ A



Power Density in W/cm^3 , 12 GeV, 5 μA



Power Density at the Entrance (W/cm^3), 12 GeV, 5 μA



Power Density at the Exit (W/cm^3), 12 GeV, 5 μA

