3-D Source & NWL Update

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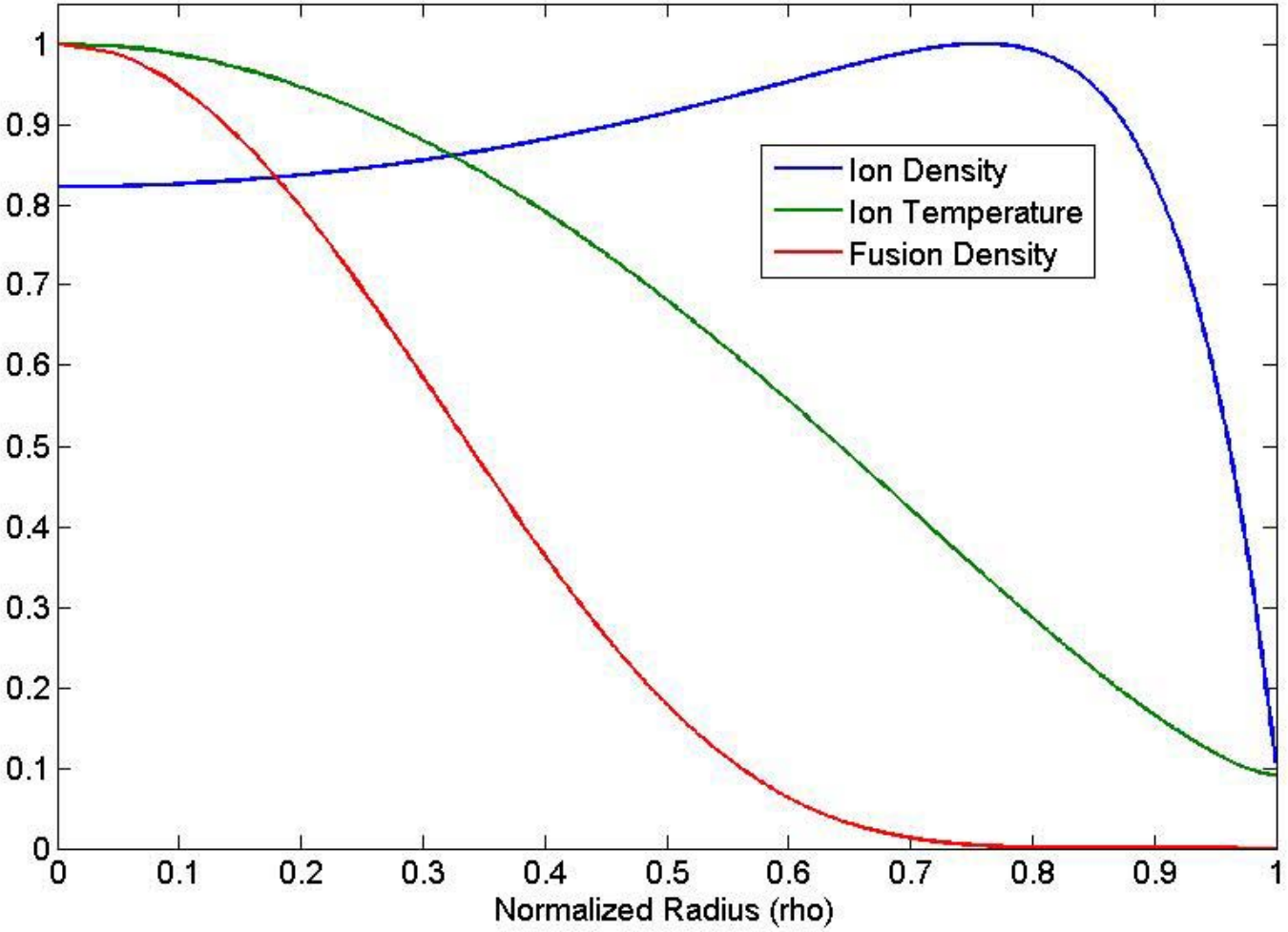
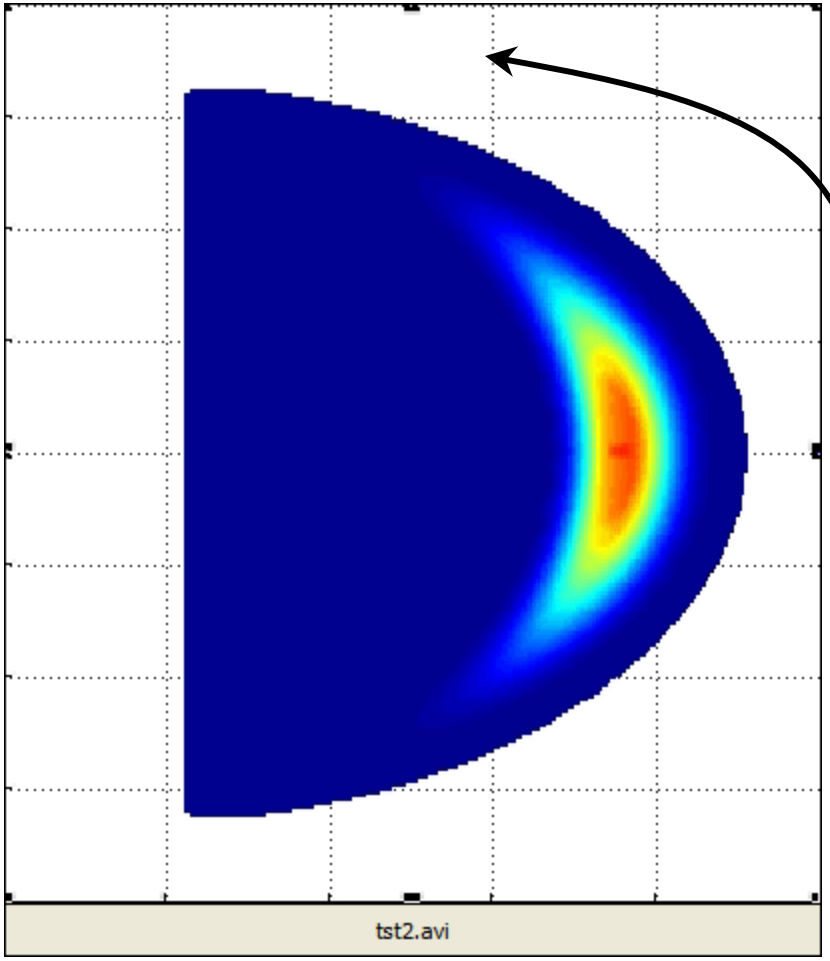
Fundamental Source Density

Note: based on Data from J. Lyon (ORNL)



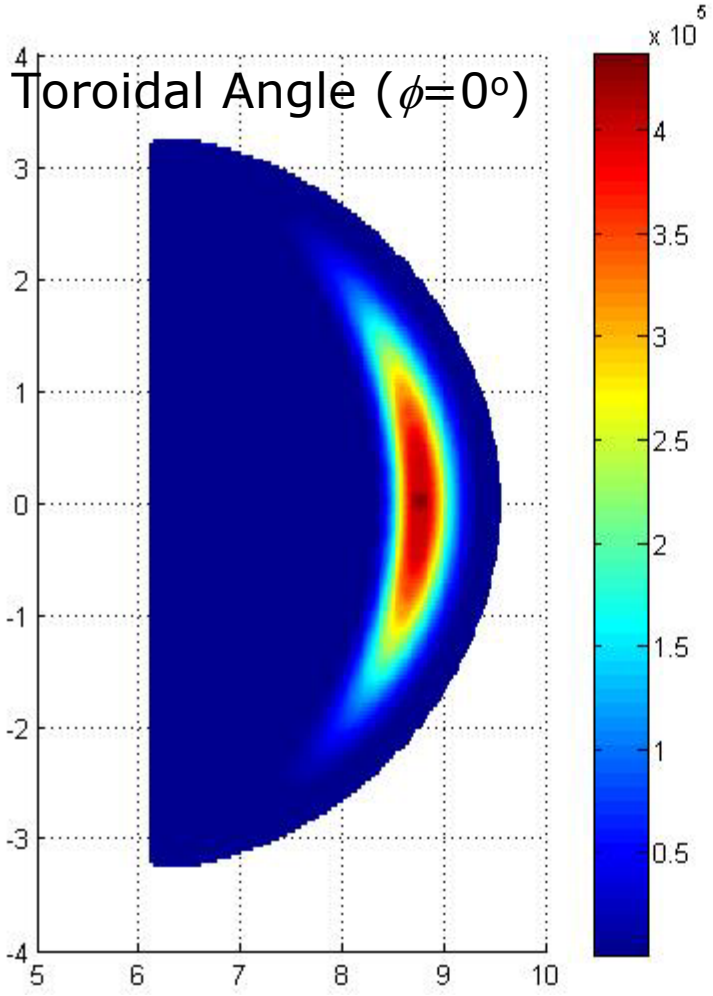
Source Probability Map

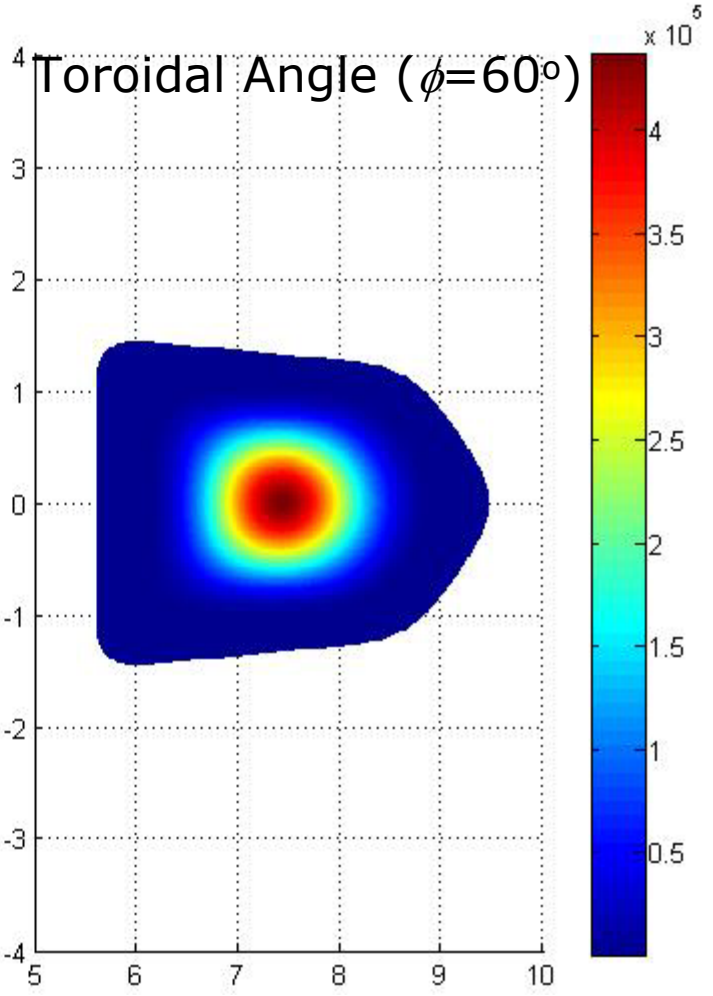


Increasing
Poloidal Angle
(0° at O/B midplane)

Peak source probability lower at 60°

Peak source density is identical, as expected!

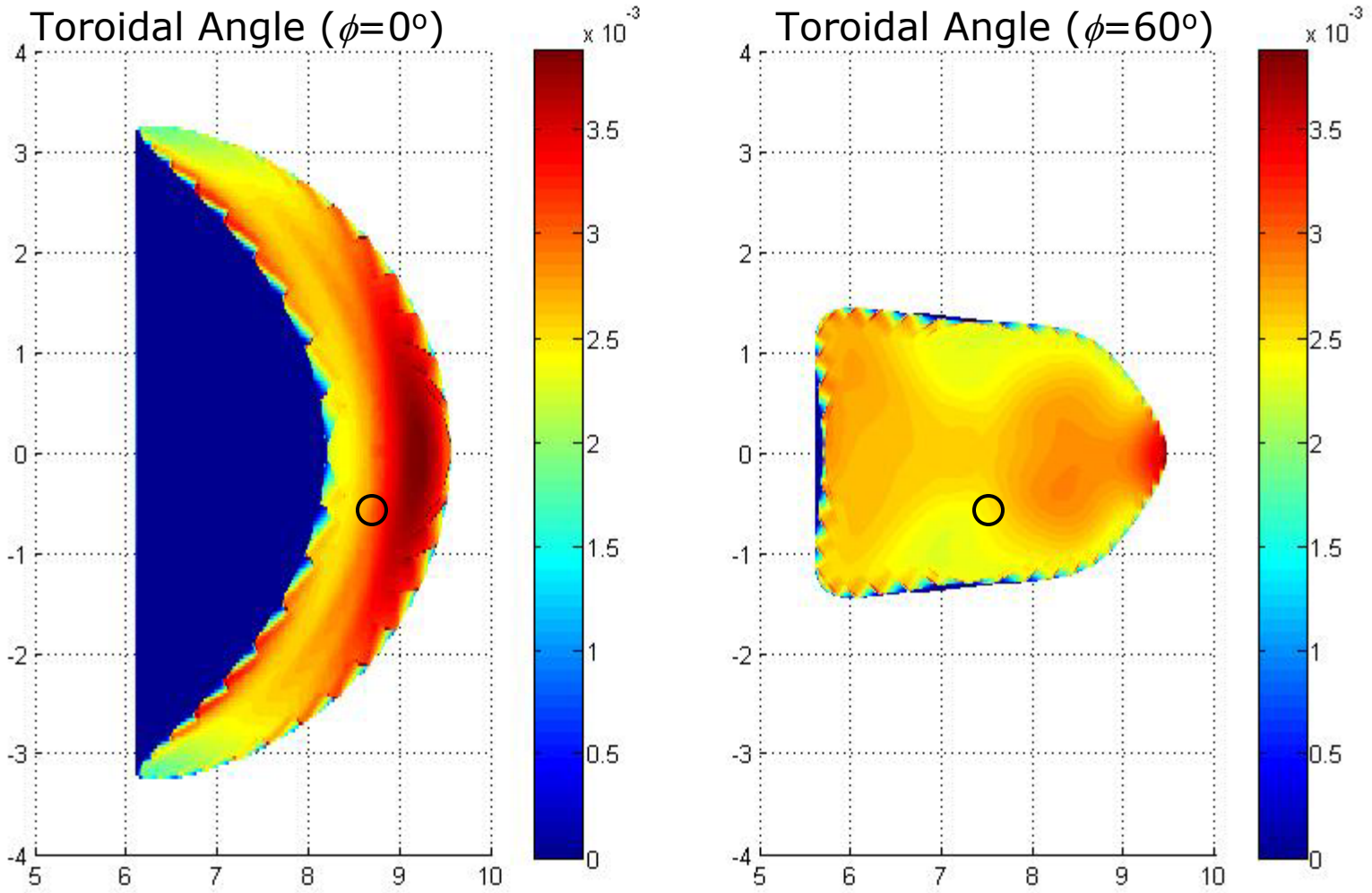




Peak source probability lower at 60°

Source volume is smaller because of lower major radius.

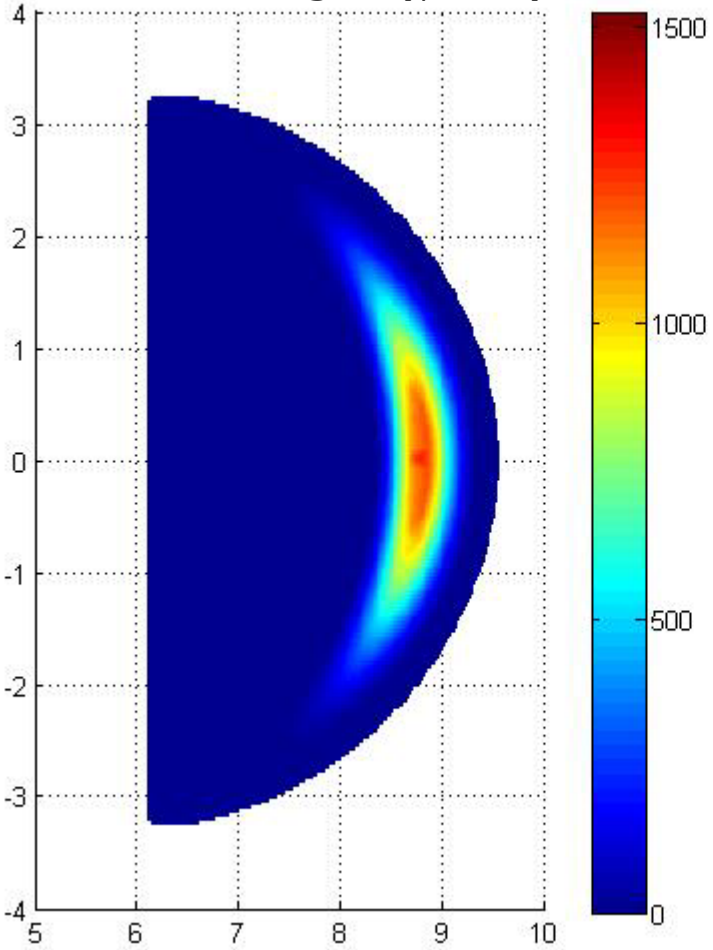
(ignore artifacts of interpolation at domain boundary)



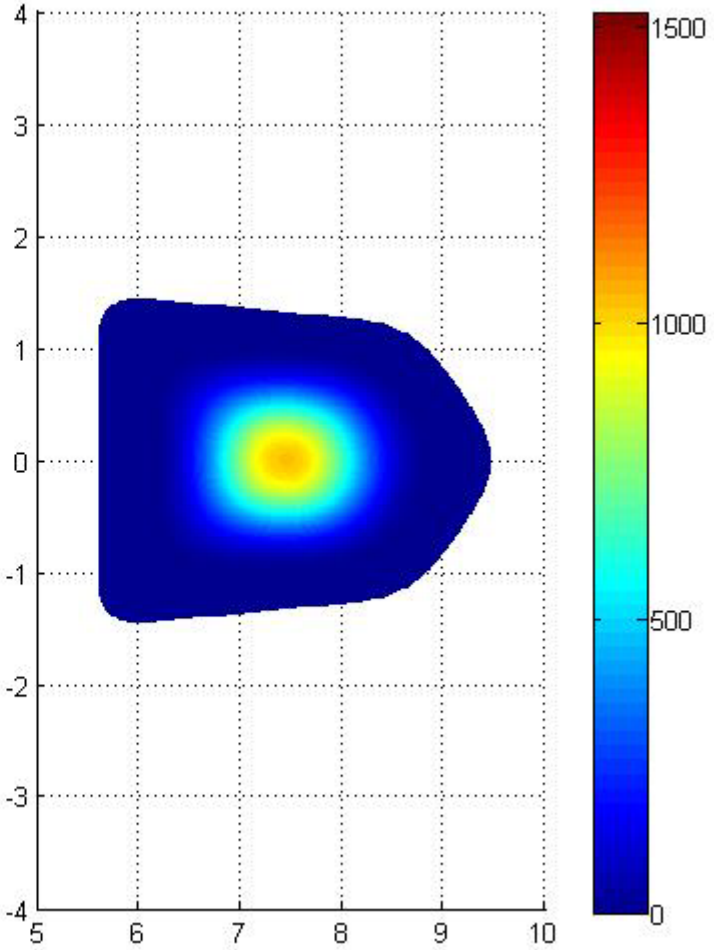
Peak source probability lower at 60°

Peak source probability is lower because of volume.

Toroidal Angle (ϕ=0°)

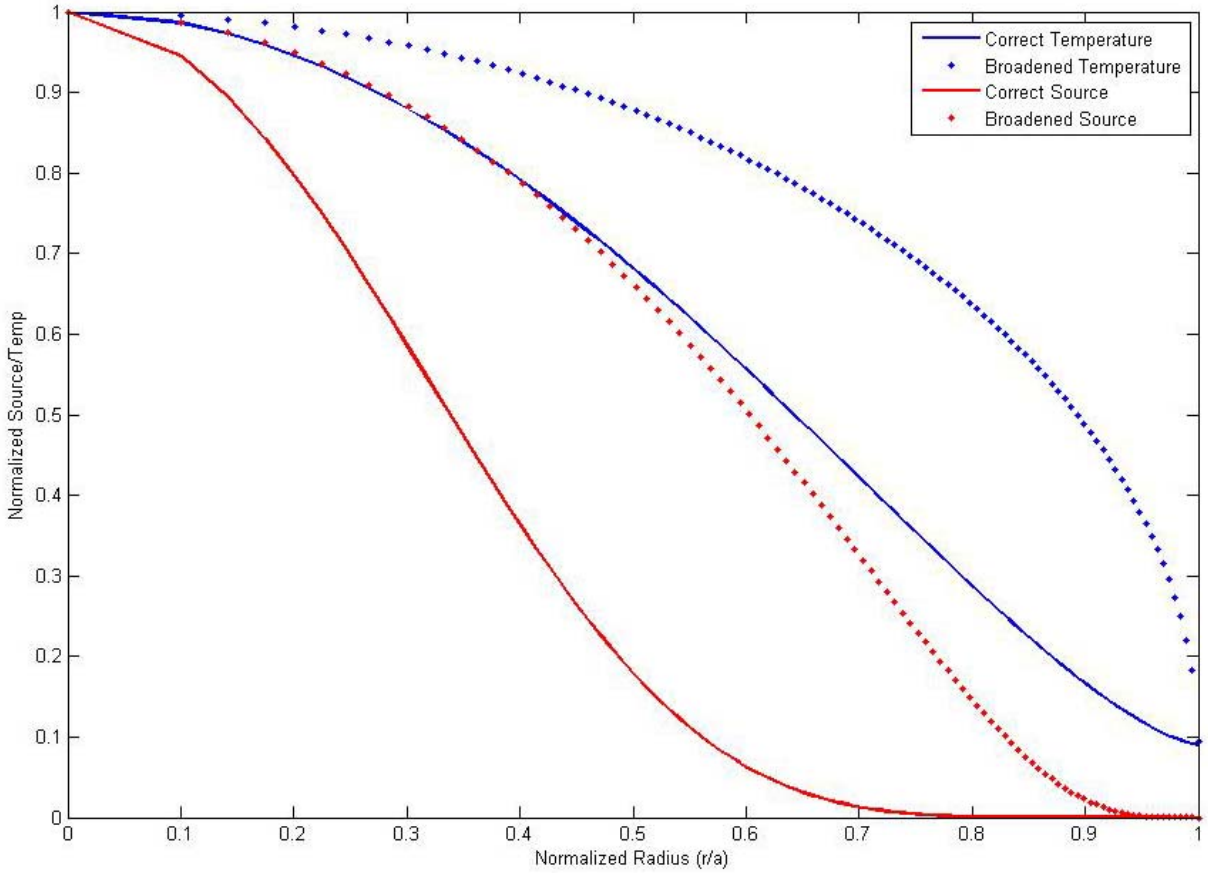


Toroidal Angle (ϕ=60°)



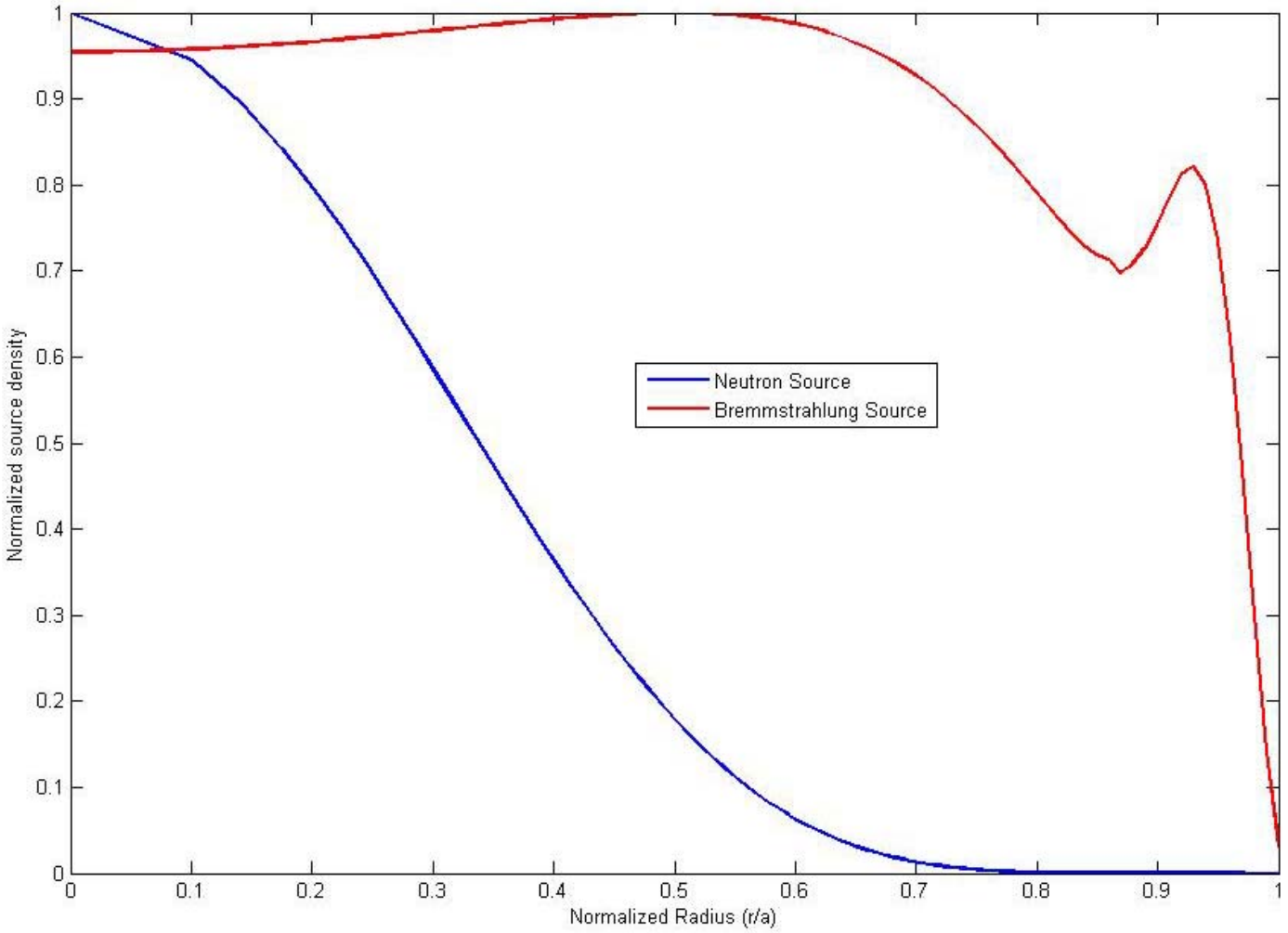
Artificial Broadening of Source

- For comparison, an artificial ***unphysical*** source was contrived



Radiation Heating Source

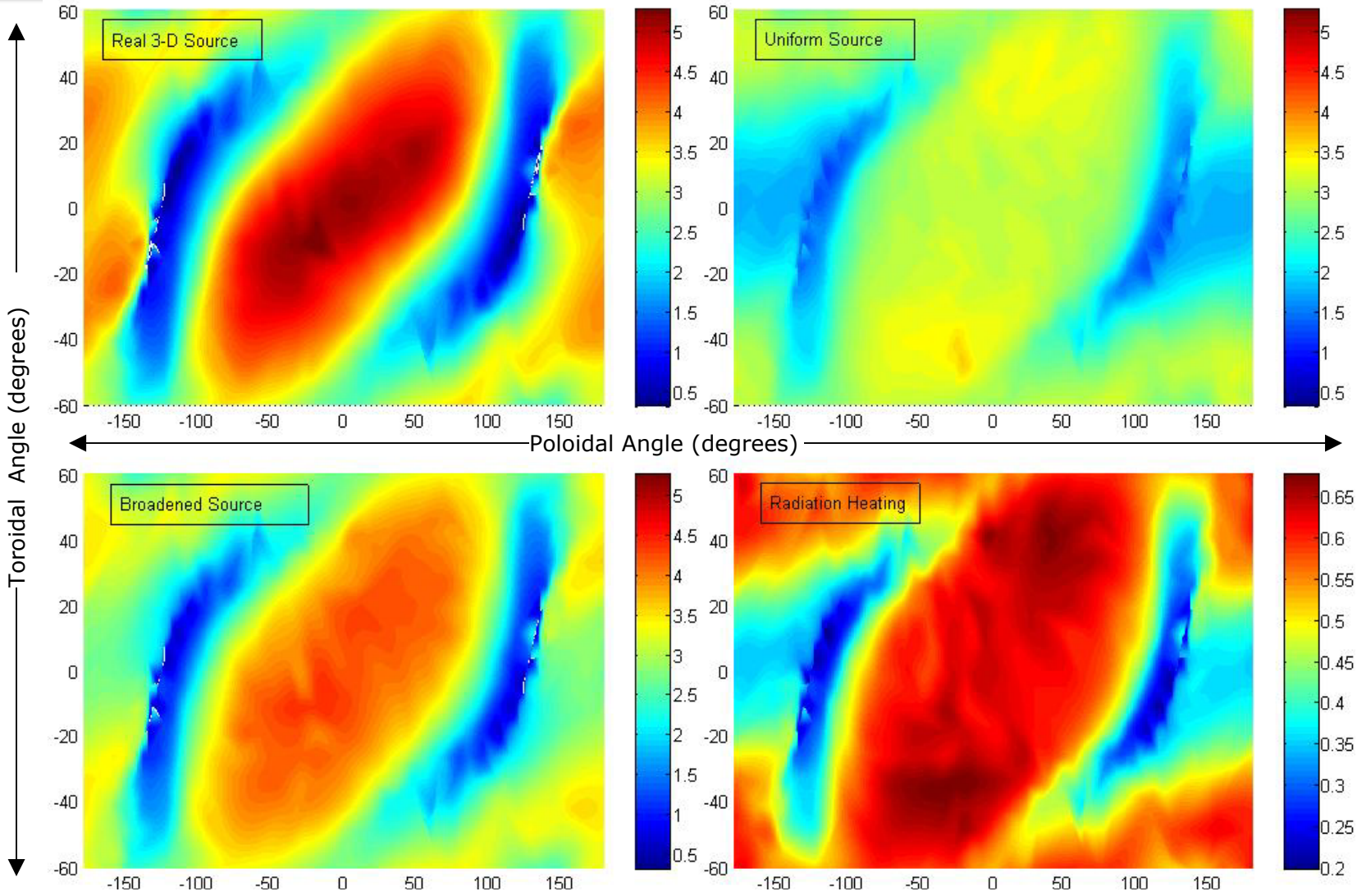
Note: based on Data from J. Lyon (ORNL)



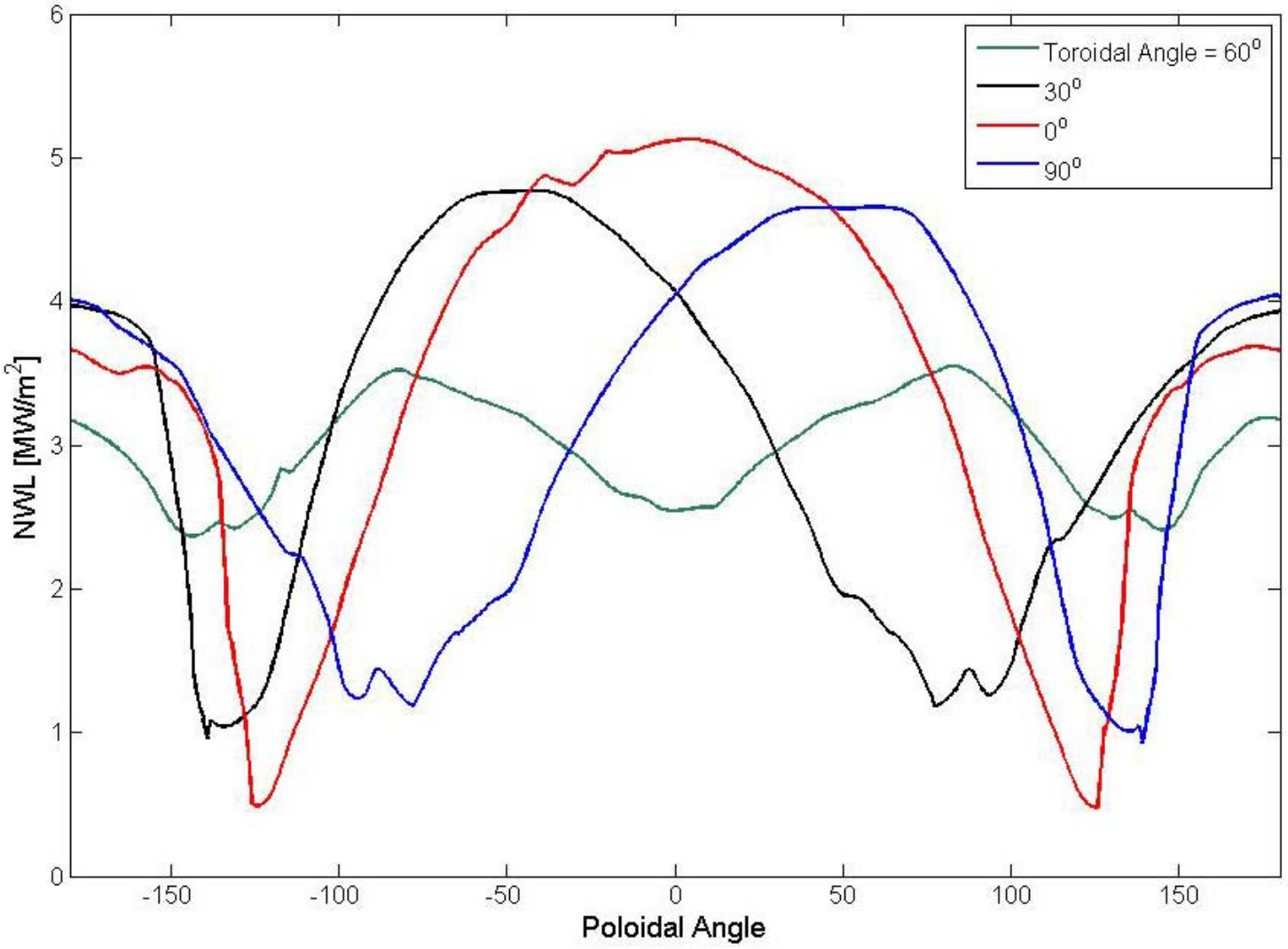
NWL Summary

	Peak (Min) [MW/m^2]	Toroidal Angle (degrees)	Poloidal Angle (degrees)
Real 3-D Source	5.26 (0.32)	-11 (-4)	-18 (-116)
Broadened Source	4.38	-33	-11
Uniform Source	3.56	-49	-21
Rad. Heating	0.68 (0.2)	-34 (11)	-17 (-117)

NWL Maps (colormaps in MW/m^2)



Neutron Wall Loading Profiles



Radiation Heating Profiles