

# Status of Vacuum Vessel Sizing

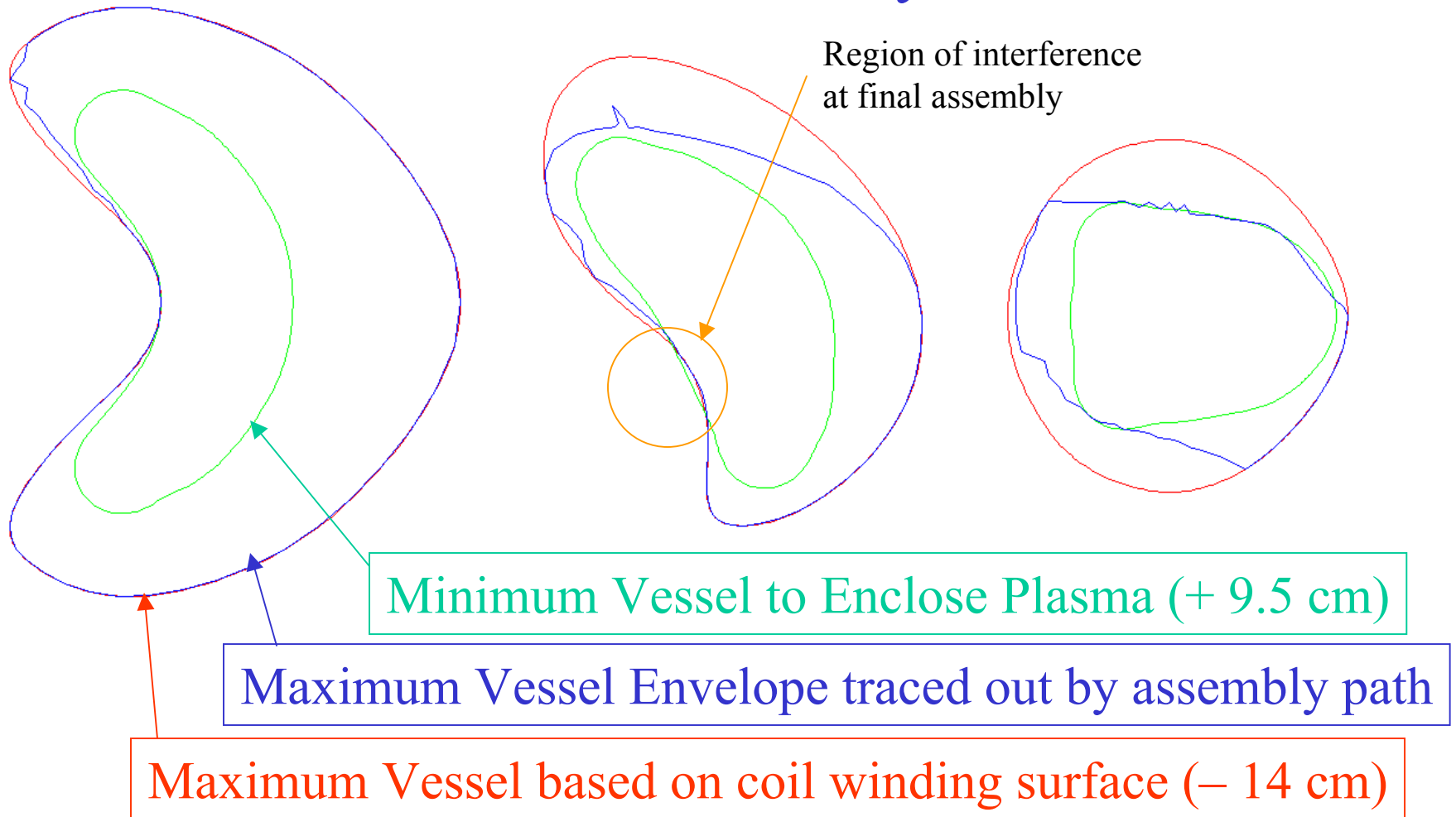
- Still Struggling with demonstrating minimum vessel can be assembled with adequate clearance
  - initial radial displacement needed, but limited in part by NB geometry. Can Vessel shrink near NB?

# Rehash of Build Stack-up

		Brad's Data	Favorable Modular Coil Orientation
<b>Plasma to VV outer surface</b>		<b>10.43</b>	<b>10.43</b>
	Plasma Scrape-off	2.00	2.00
	In Vessel Components	7.00	7.00
	VV Shell and Inner Tolerance	1.43	1.43
<b>Coil Centroid to VV outer Surface</b>		<b>11.28</b>	<b>10.26</b>
	VV Tubes, Insulation and Outer Tolerance	3.02	3.02
	Modular Coil Center to Outer Edge of Straps	8.26	7.24
	Assembly Clearance	0.00	0.00
<b>Total - Plasma to Coil Centroid</b>		<b>21.71</b>	<b>20.69</b>
	Available Envelope	20.86	20.86
	Interference	0.84	-0.17

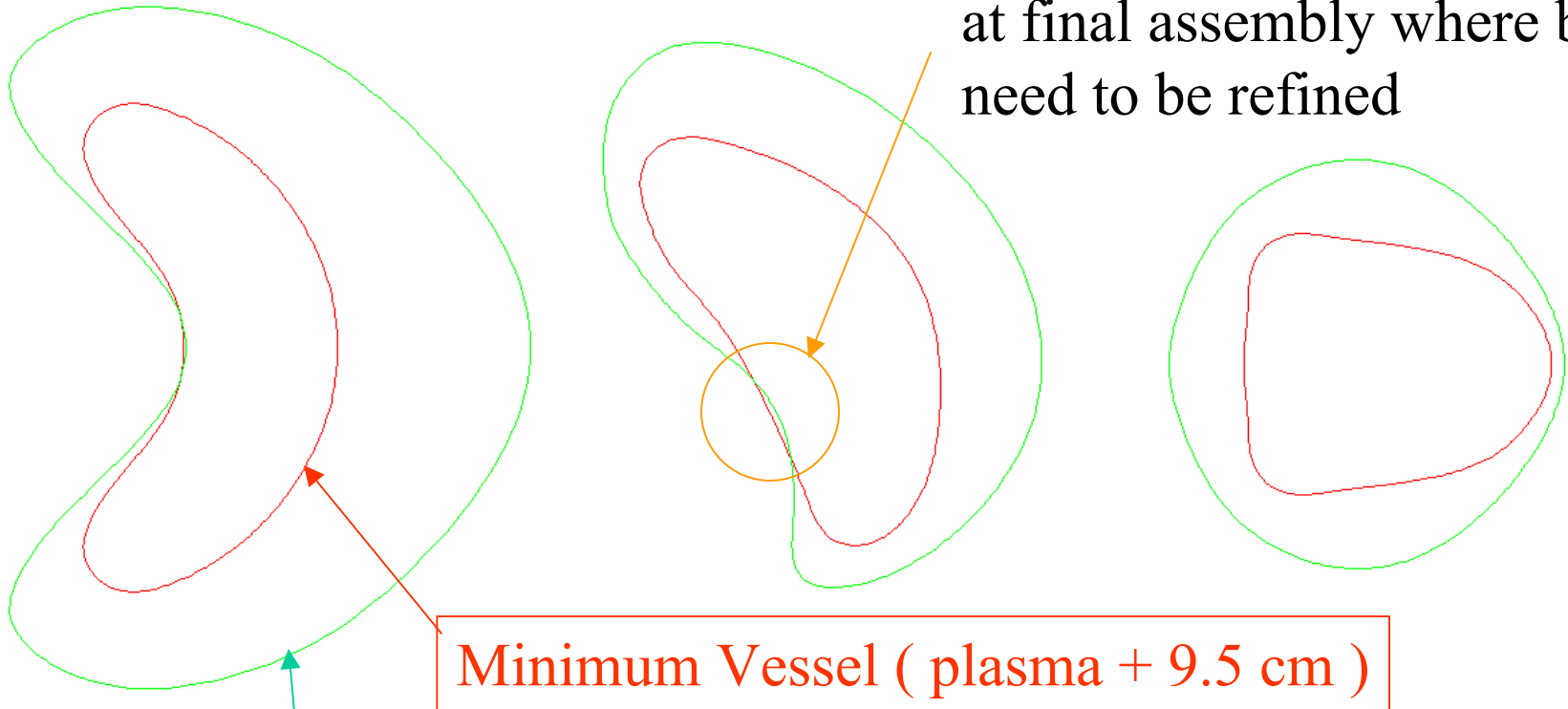
0.00 assembly clearance requires initial radial displacement to open up clearance before removal. NB port limits this.

# Maximum Vessel Envelope Defined by Trace of Coils along Calculated Assembly Path



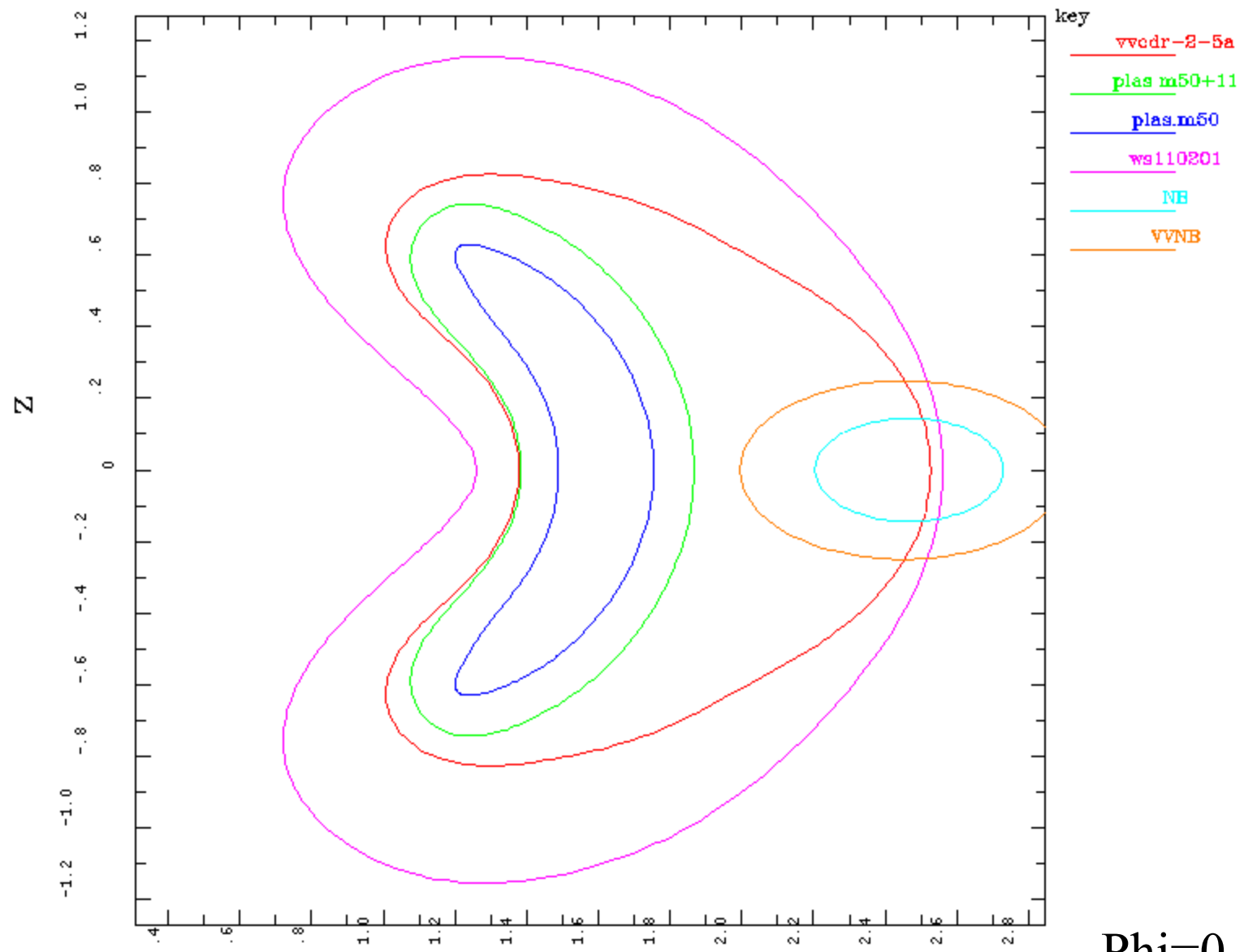
# Envelope for Defining Vacuum Vessel

Region of interference  
at final assembly where builds  
need to be refined

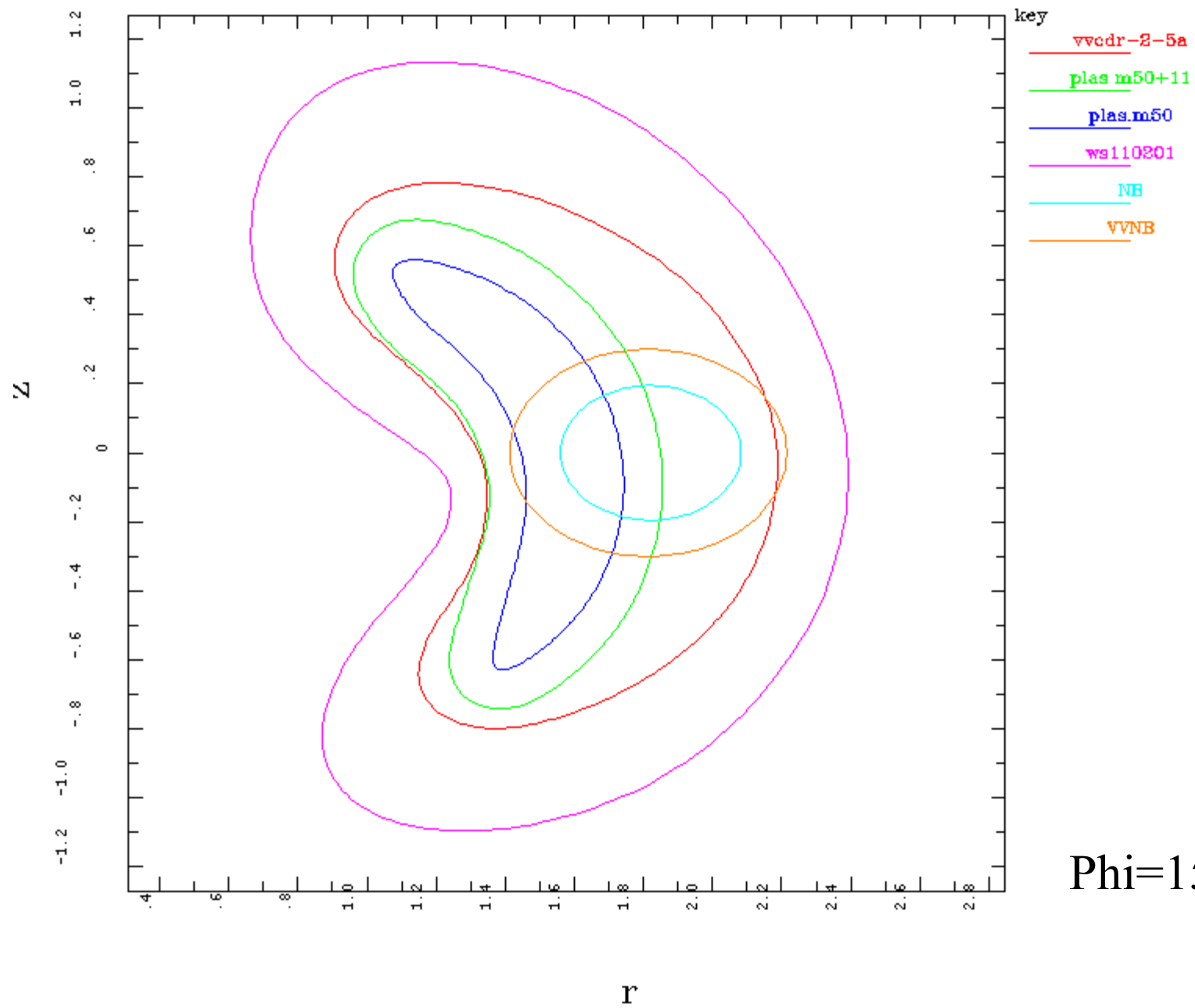


Minimum Vessel ( plasma + 9.5 cm )

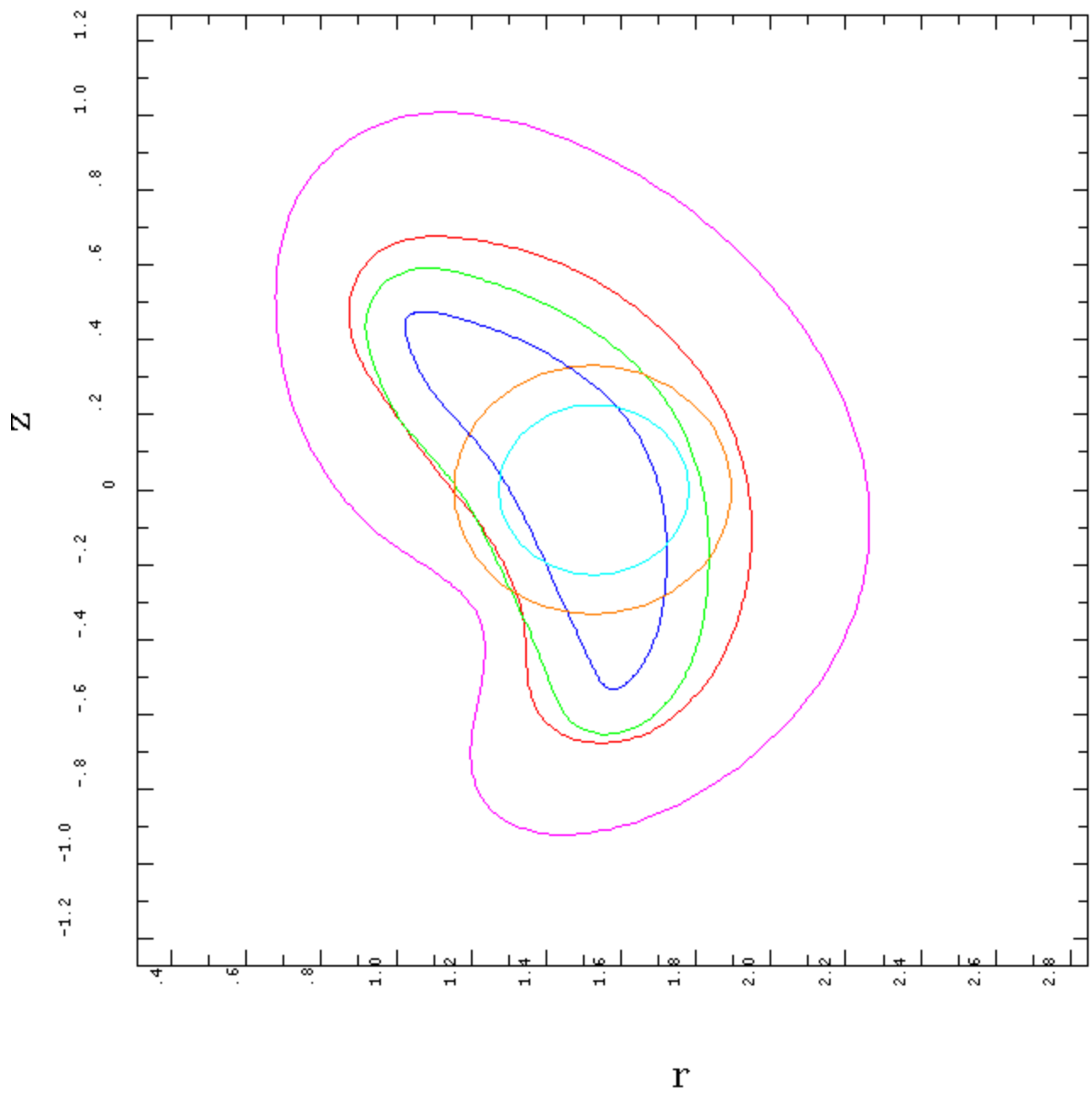
Maximum Vessel ( winding surface – 14 cm )



Phi=0. deg

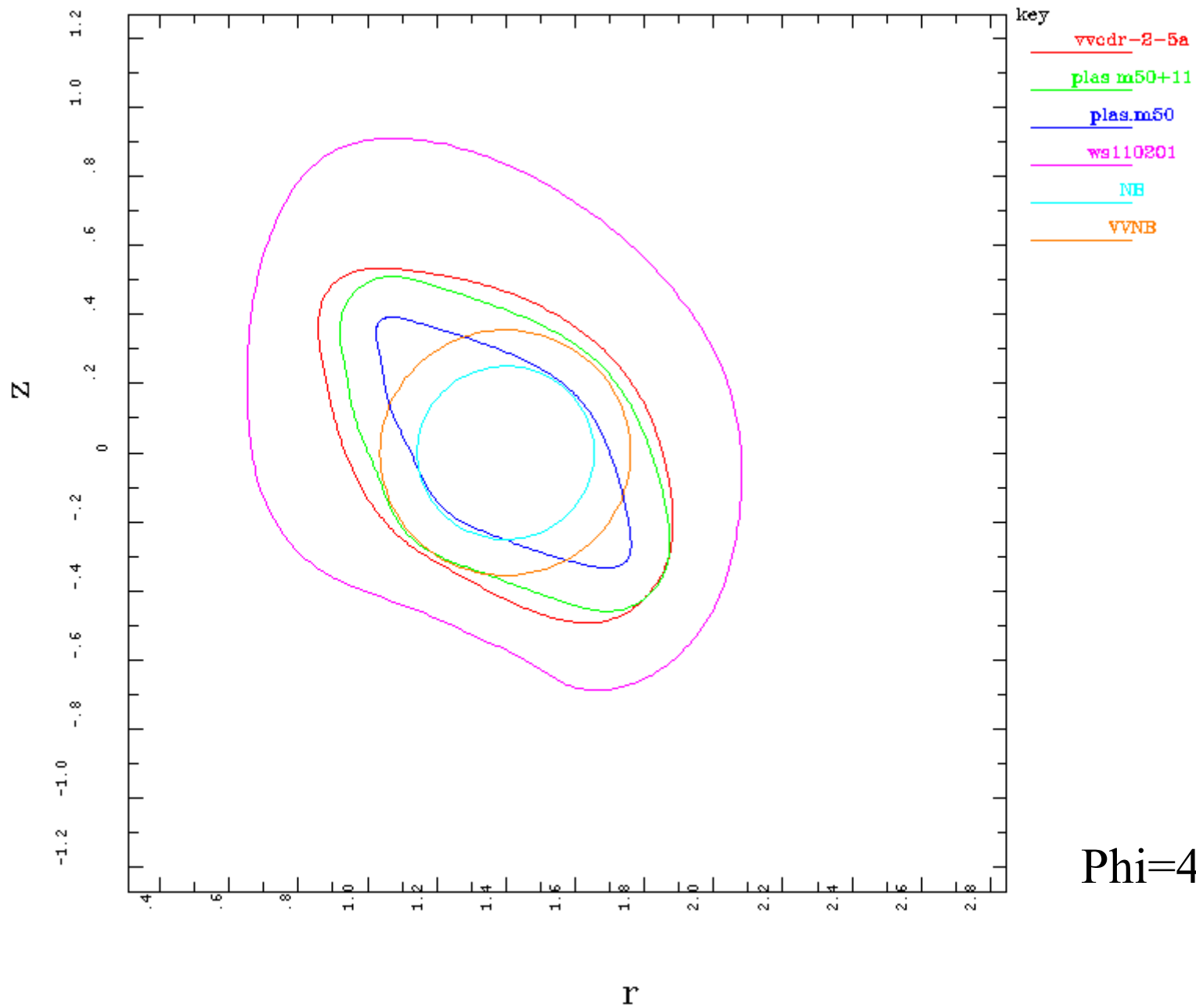


$\Phi = 15. \text{ deg}$



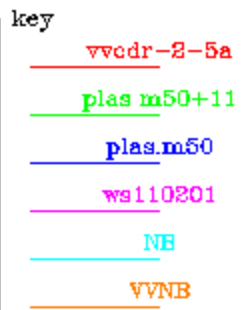
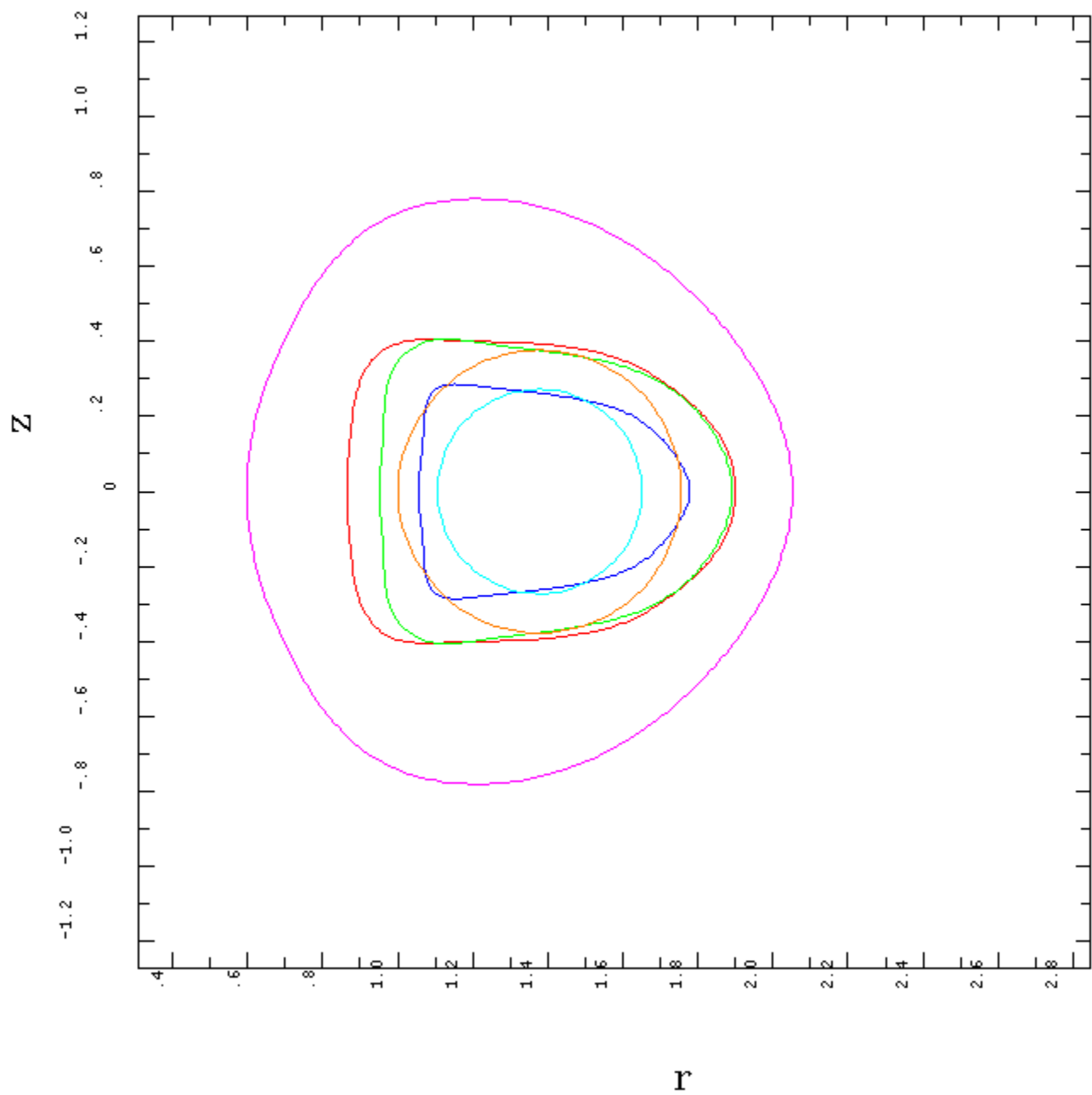
- key
- vvdr-2-5a
  - plas m50+11
  - plas.m50
  - ws110201
  - NE
  - VVNB

Phi=30. deg



$\Phi = 45^\circ$





$\Phi = 60^\circ$