

Update on Target Vacuum Can

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- OVC Design for **SANE**, **Semi-SANE**, and **Real Compton** experiment (**just approved!**)

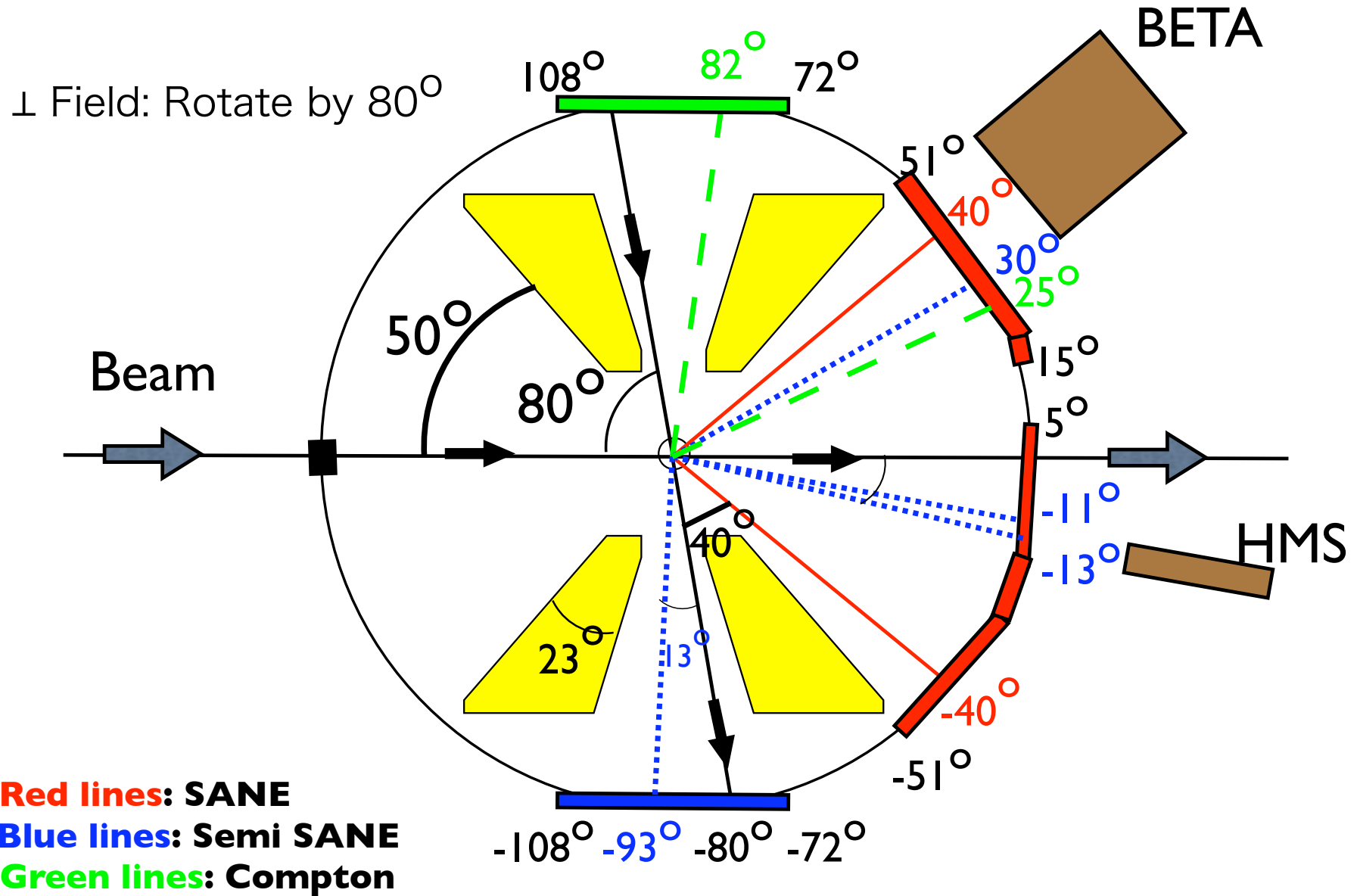
Kinematics for SANE, Semi-SANE, and Compton experiments (As of Sep. '05)

	Beam Energy (GeV)	BETA energy (GeV)	BETA Angle (deg)	P_{HMS} (GeV/c)	HMS angle (deg)	Target Field	Run type
SANE	4.8, 6.0	0.8-2.2	40	--	--	// \perp	Production
	6.0	--	--	1.0-1.7	36-44	//, \perp	e^+ BG \perp
	2.4	1.3-1.8	40	1.1-1.7	33-48	//, off	Calibration: ep elastic
Semi SANE	6.0	0.6-2.0	30	2.7	10.8	//	Production
	6.0	0.6-1.4	40	4.0	13.1	//, \perp	Parasitic(during SANE)
Compton	4.8	(3.0)	25	2.0	39	// off	Production Calibration: ep elastic
	4.8	(0.9)	82	4.3	12	//	Production

Summary of changes to the design

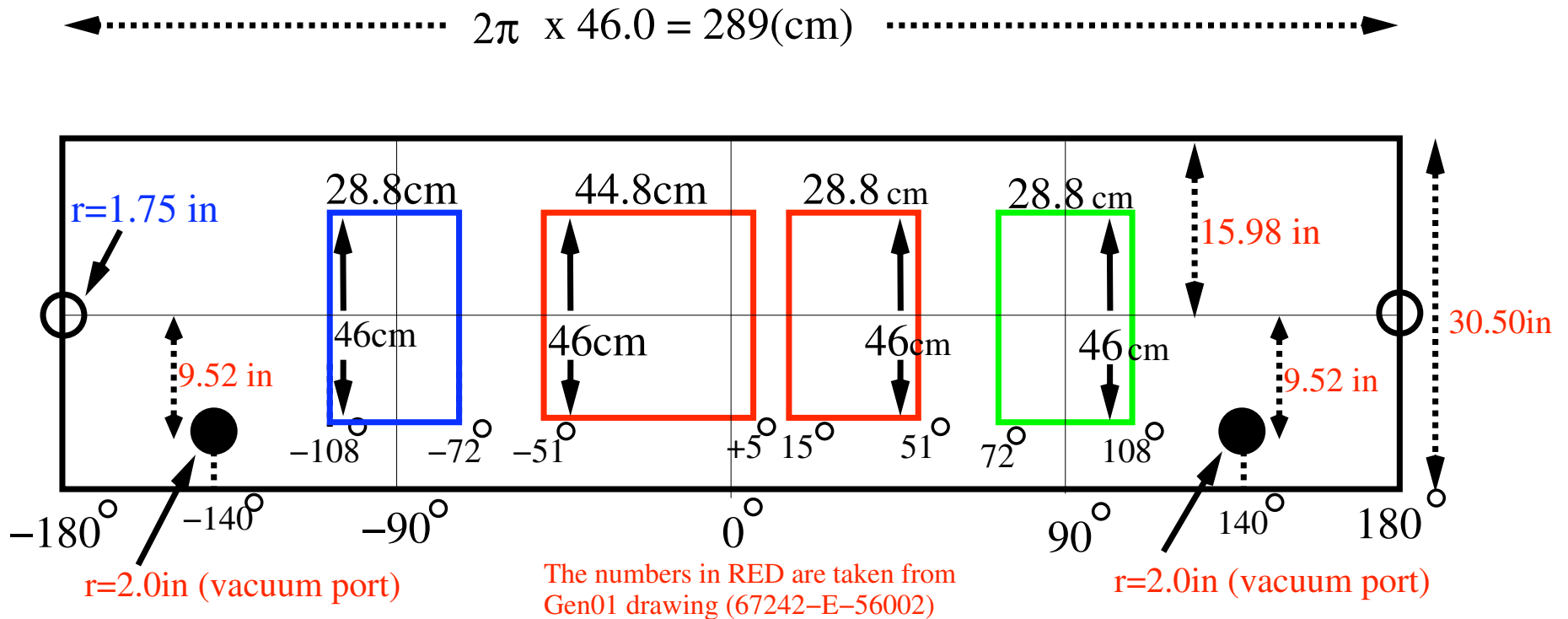
- Will make a new fresh can (~\$40k)
- Assume the Calorimeter is placed at **2.5m** from the target (it was 3.25m). The horizontal acceptance would be 27deg.
- Window height increased to **46cm** (was 42cm); All the windows have the same height.
- Windows were made **as wide as possible**.
- No HMS window at ~ -150 deg for SANE

OVC Windows (Aug, 2005, Submitted)



Window locations and dimensions (Aug, 2005; Submitted)

- Roll-out view of the OVC with the inner radius of 46.0 cm



Other things to do

- P. Brindza will start the engineering calculations soon and determine the wall thickness of the can.
- Design of nitrogen shield will be very similar to that of the OVC.
- The Be window of 3.5-inch diameter will be taken out from the old OVC for Gen01 and be put on the new can.

Timeline

- (Final OVC design submitted in Aug 2005.)
- **Engineering calculations and drawings** (~3 month). P. Brindza will start doing them soon
- Design of Nitrogen Shield(<1 month)(Tajima)
- **Manufacturing of OVC** (~6months including bidding period)
- Testing the OVC (Summer/Fall 2006 ?)
(M.Seely)

Summary

- The OVC window design has been submitted to P. Brindza.
- Will make a new fresh can.
- The can will be available in early summer of 2006 if everything goes smoothly.