

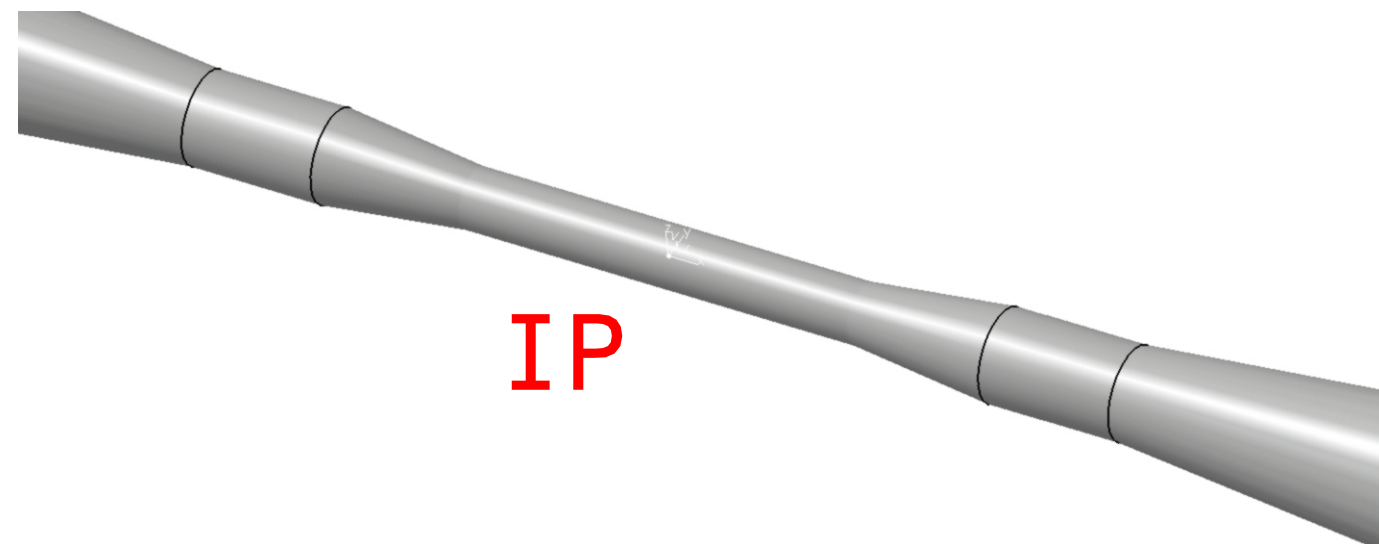
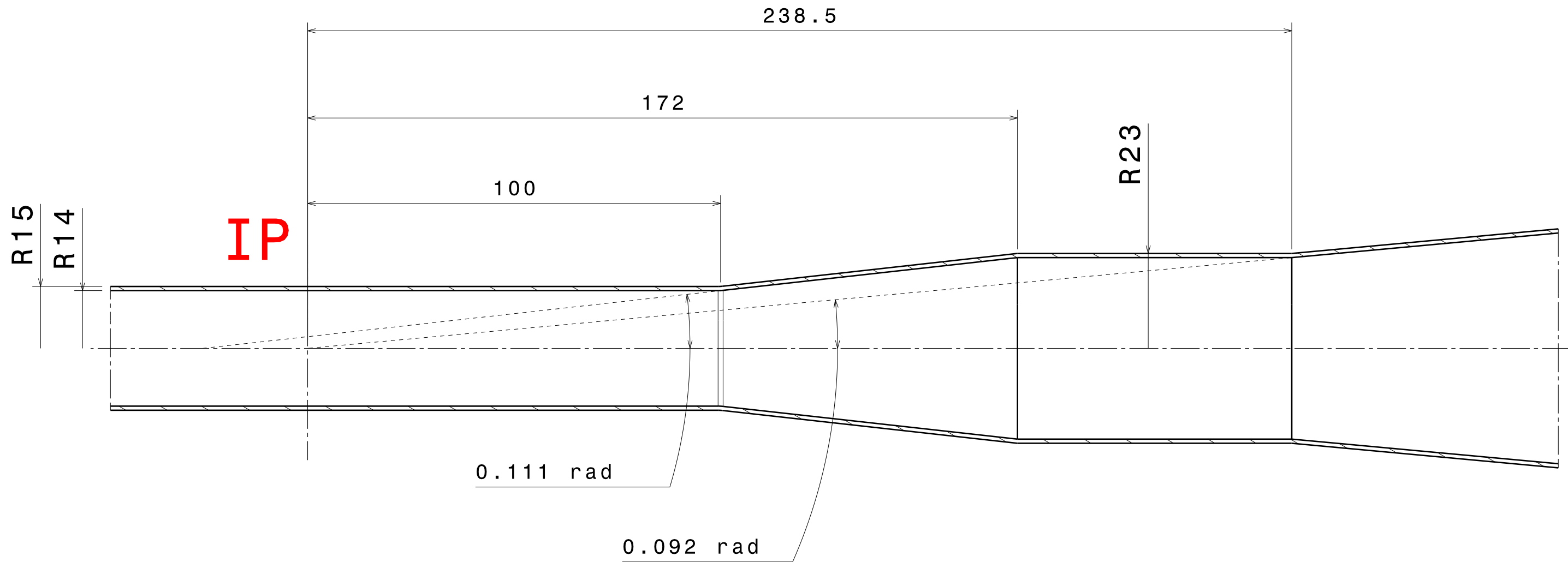
About FTD parameters and Mokka models X Integration

ILD optimisation meeting 14/5/08

Mora de Freitas - LLR

About FTD parameters

- Current tube design at www.ilcild.org :



Base de données : IDsmt_3D : 23971				Date 14/04/08
Traitement :		Protection :		
Matière :	Tolérances générales	± 0,1	Rugosité générale	Ra 3,2 (N8)
ILD				
Beam pipe in IP area		Indice	Date	Modifications
		Dessiné par : M. JORE		
		Approuvé par :		
	LABORATOIRE DE L'ACCELERATEUR LINEAIRE Bat. 208, BP 34, 91898 ORSAY CEDEX FRANCE Tel. 01 64 46 83 63 - Fax 01 64 46 83 47		Ech. 1/1	ILD_08094
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About FTD parameters

- TUBE_opening_angle = 0.092 rad, not 0.07876 rad as set now for LDC01_06Sc and LDCPrime_02Sc
- So inner radii should also be bigger than the current values
- Anyway it's not a big problem
- Z values are nice
- 290 mm as outer radius too much, should be 280 mm to leave space between FTD and TPC

ILD Dimensions

- Also at www.ilcild.org :
 - comparison of the dimensions for the different versions of ILD versus Mokka models.

		Red : from presentations	
		LDC V6 (ILD-L1)	LDC' (LDC +TPC 1,8m) (ILD-L2)
magnet		4T, 1,7 GJ	
	Barrel Y Rin	3850	4091
	Barrel Y Rout	6000	6241
	Barrel Y Zin	-3865	-3944
	Barrel Y Zout	3865	3944
	thick.	2150	2150
	R.Y. Rin	350	350
	R.Y. Rout	6000	6241
	R.Y. Zin	3890	3969
	R.Y. Zout	6290	6369
	thick.	2400	2400
	Coil cryostat		
	Rin	3000	3241
	Rout	3750	3991
	Zin	-3790	-3869
	Zout	3790	3869
	thick.	750	750
	Coil Rin	3160	3401
	Coil Rout	3500	3741
	coil 1/2 length	3590	3669
Hcal		SS/Scinti, 5 λ, max 42 layers barrel, 46 endcaps, cell 9cm ² , ep slab 6,5; ep layer 20	44 layers barrel, 46 in endcap + 100 mm iron
	Barrel Rin	1800	2035
	Barrel Rout	2960	3201
	Barrel Zin	-2290	-2350
	Barrel Zout	2290	2350
	thick.	1160	1166
	EC Rin	square 350	350
	EC Rout	octogonal 2900	3200?
	EC Zin	2590	2650
	EC Zout	3890	3969
	thick.	1300	1319
Hcal ring	Rin	1950	2170
	Rout	2900	3200?
	Zin	2390	2450
	Zout	2590	2650
Ecal		W/Si, 24 X0, 29 layers, cell 0,25 cm ²	
	Barrel Rin	1600	1820
	Barrel Rout	1770	2005,3
	Barrel Zin	-2290	-2350
	Barrel Zout	2290	2350
	thick.	170	185,3
	EC Rin	square 400	400
	EC Rout	octogonal 1870	2088,8
	EC Zin	2390	2450
	EC Zout	2580	2640
	thick.	190	190
TPC			
	Rin	300	300
	Rout	1580	1800
	Endplate in	2170	2250
	Endplate out	2250	2350
	thick.	80	
Fcal (lumical)		W/Si centered on outgoing beam	
	Rin	77	80
	Rout active	196	196
	Rout support	271	271
	Zin	2360	2450
	Zout	2560	2650
Bcal		W/Si or W/diamond centered on outgoing beam 30 layers, 3,5 mm each	
	Rin	13	
	Rout	220	
	Zin	3450	
	Zout	3650	

FROM MOKKA			
LDC01_05Sc		ILD2 (LDCPrime_01Sc)	
4T		3,5T	
	4234,22		4458,53
	6234,22		6458,53
	2000		2000
	300		300
	4138		4200
	6038		6100
	1900		1900
	3134		3359
	3884		4109
			-3850
	3788		3850
	750		750
48 layers			
	1876,62		
	3074		3294
	2288		2350
	1197,38		
	3877,3		3939,3
	3134,22		3358,53
8 staves, 5 modules, 3 towers, Si 9cm ²			
	1600		1820
	1785,3		2005,3
	-2288		
	2288		2350
	185,3		185,3
	1861,92		2088,8
	2388		2450
	2573,3		2635,3
	305		305
	1580		1800
	2188		2250
	2288		2350
			active part
	80		80
	195,2		195,2
	2388		2388
	2538		2538

	GLD	LDC V5	GLDc
magnet	3T, 1,6GJ	4T, 1,7 GJ	
	Barrel Y Rin	4500	3850 4100
	Barrel Y Rout	7200	6000 6900
	Barrel Y Zin	-4450	-3865 -3920
	Barrel Y Zout	4450	3865 3920
	thick.	2700	2150 2800
	R.Y. Rin	400	350 400
	R.Y. Rout	7200	6000 6900
	R.Y. Zin	4200(4500)	3890 3700(3950)
	R.Y. Zout	7500	6290 6900
	thick.	3300 (2900)	2400 3200(2950)
	Coil cryostat		
	Rin	4000	3000 3600
	Rout		3750
	Zin	-4000	-3790 -3600
	Zout	4000	3790 3600
	thick.		750
	Coil Rin		3160
	Coil Rout		3500
	coil 1/2 length		3590
Hcal	Pb/Scinti, 5,7λ, 46 layers, 20/5+1readout, cell 1cm ²	SS/Scinti, 5λ, max 42 layers barrel, ,53 endcaps, cell 9cm ² , ep slab 6,5; ep layer 20	
	Barrel Rin	2300	1800 2050
	Barrel Rout	3500	2960 3150
	Barrel Zin	-3000	-2290 -2300
	Barrel Zout	3000	2290 2300
	thick.	1200	1160 1100
	EC Rin	400	square 350 400
	EC Rout	3500	octogonal 2900 3150
	EC Zin	3000	2590 2500
	EC Zout	4200	3890 3700
	thick.	1200	1300 1200
Hcal ring	Rin	2550	1950 2300
	Rout	3500	2900 3150
	Zin	2800	2200 2400
	Zout		2400 3700
Ecal	W/scinti, 26X0, 33 layers. Thick.3/2+1readout, cell 1 cm ²	W/Si, 24 X0, 29 layers, cell 0,25 cm ²	
	Barrel Rin	2100	1600 1850
	Barrel Rout	2300	1770 2050
	Barrel Zin	-2800	-2290 -2300
	Barrel Zout	2800	2290 2300
	thick.	200	170 200
	EC Rin	400	square 400 400
	EC Rout	2300	octogonal 1870 2200
	EC Zin	2800	2390 2400
	EC Zout	3000	2580 2600
	thick.	200	190 200
TPC			
	Rin	450	300 450
	Rout	2000	1580 1750
	Endplate in	2300	2170 2000
	Endplate out		2250
	thick.		ep=80
	Forward calo		
Fcal (lumical)	W/Si	W/Si centered on outgoing beam	
	Rin	80	76
	Rout	360	250
	Zin	2300	2360
	Zout	2850	2560
Bcal	W/Si or W/diamond	W/Si or W/diamond centered on outgoing beam, 30 layers, 3,5 mm each	
	Rin	20	13
	Rout	360	220
	Zin	4300	3450 3800
	Zout	4500	3650 4000
LHCal		40 layers of 1 cm W + 2mm Si, 4.17λ	
	Rin		∅ 80
	Rout		square 330
	Zin		2590
	Zout		3110
	Forward chamber & disks		
ETD	3 layers with 40 spaces in between		
	Rin	450	square 400
	Rout	2050	octogonal 1350
	Zin	2700	2350

Zout	2780	2390
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VTX				
	R & 1/2 length	20/65	16/50	18/
	1/2length	22/65	27/125	
		32/100	38/125	
		34/100	49/125	
		48/100	60/125	60/
		50/100		
SIT				
	R & 1/2 length	90/185	160/270	
		160/330	270/450	
		230/475		
		300/620		
Fdisk				
	Rin/Rout/Z	24/76/155	35/138/220	
		32/140/290	46/250/350	
		37/210/435	60/280/500	
		47/280/580	91/280/850	
		57/380/725	123/280/1200	
		66/380/870	155/280/1550	
		76/380/1015	186/280/1900	