Discussion on beam-pipe geometry and forward acceptance

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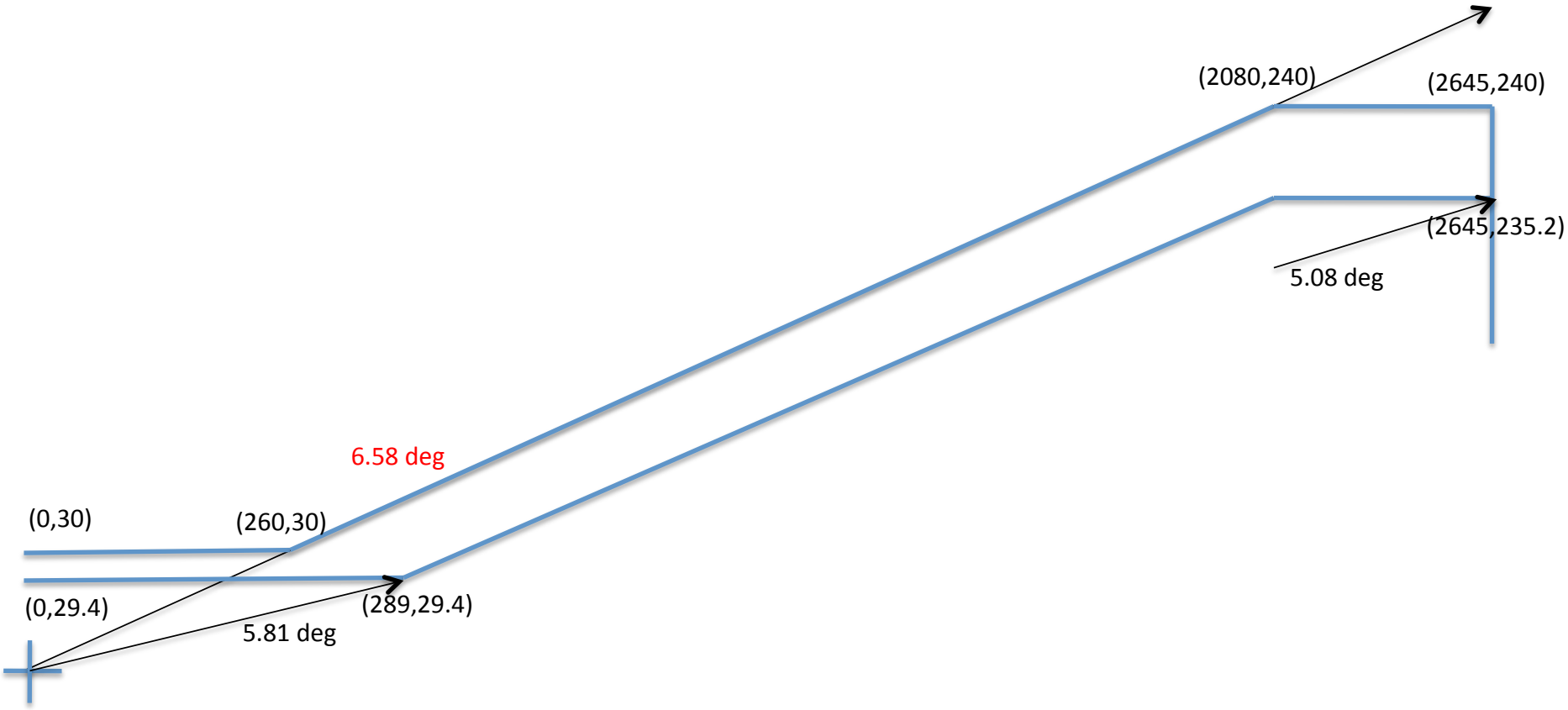
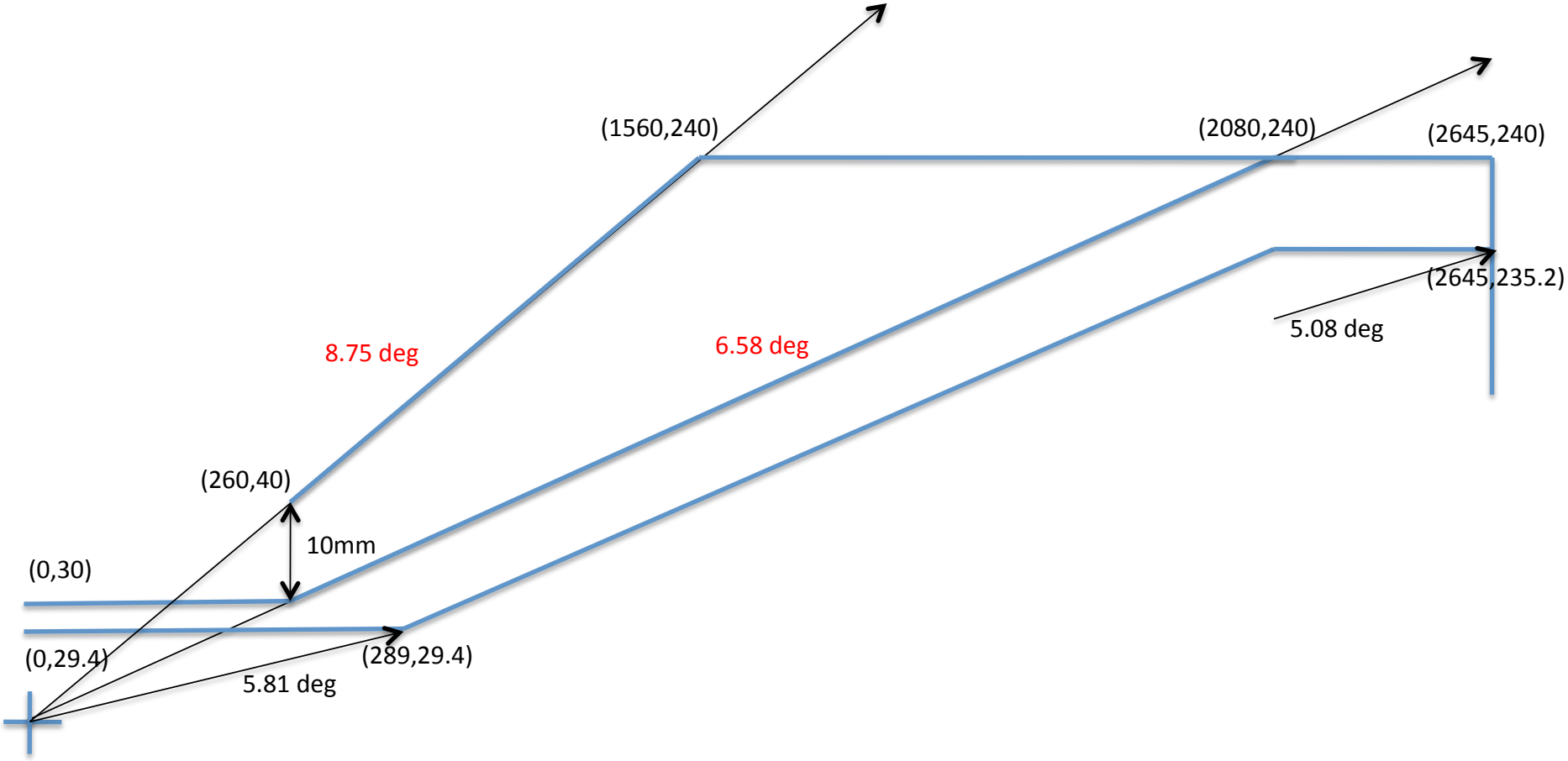
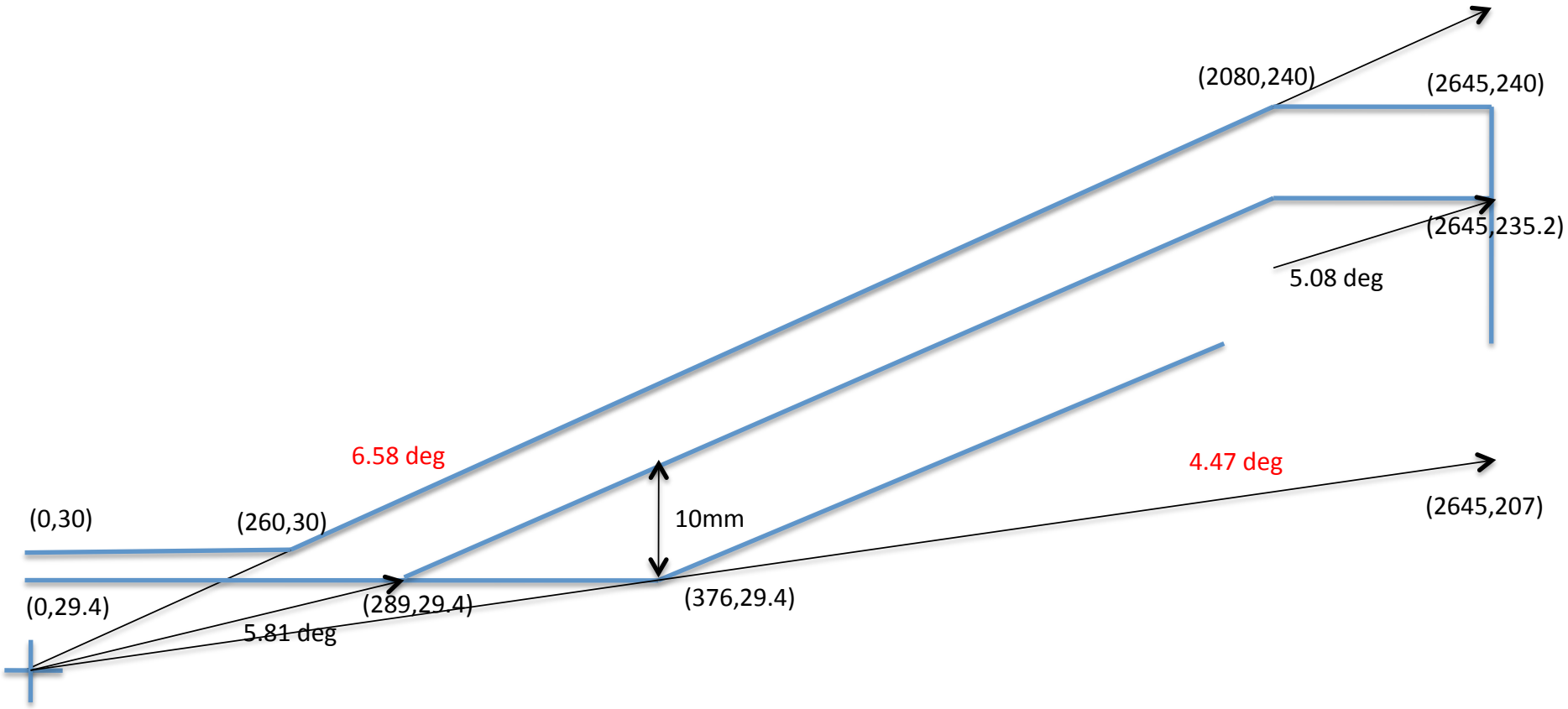
Beam-pipe geometry (CLIC_ILD_CDR)



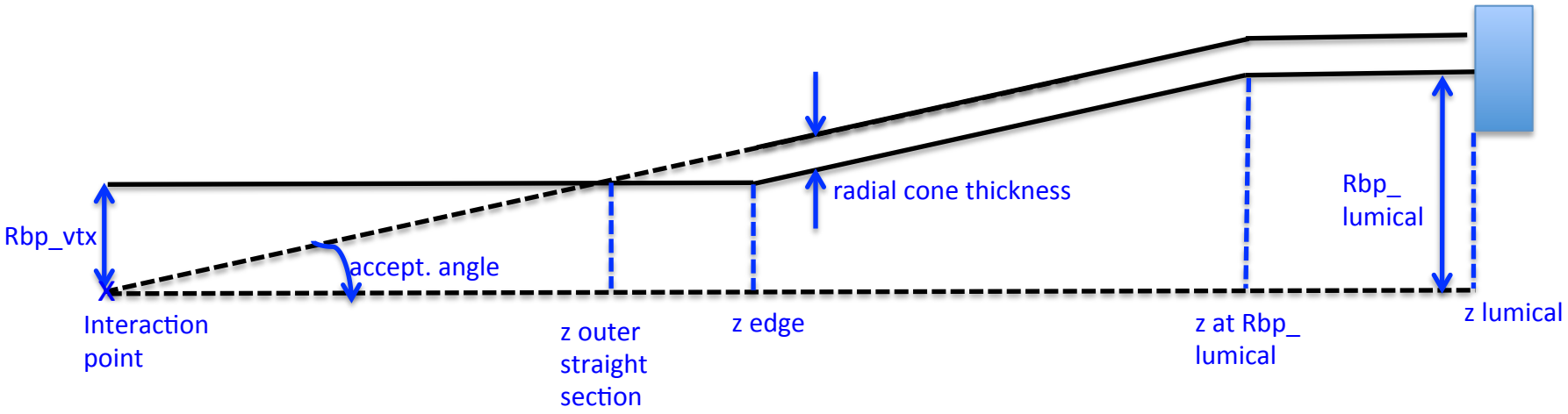
Beam-pipe geometry (CLIC_ILD_CDR + 10 mm above)



Beam-pipe geometry (CLIC_ILD_CDR + 10 mm below)

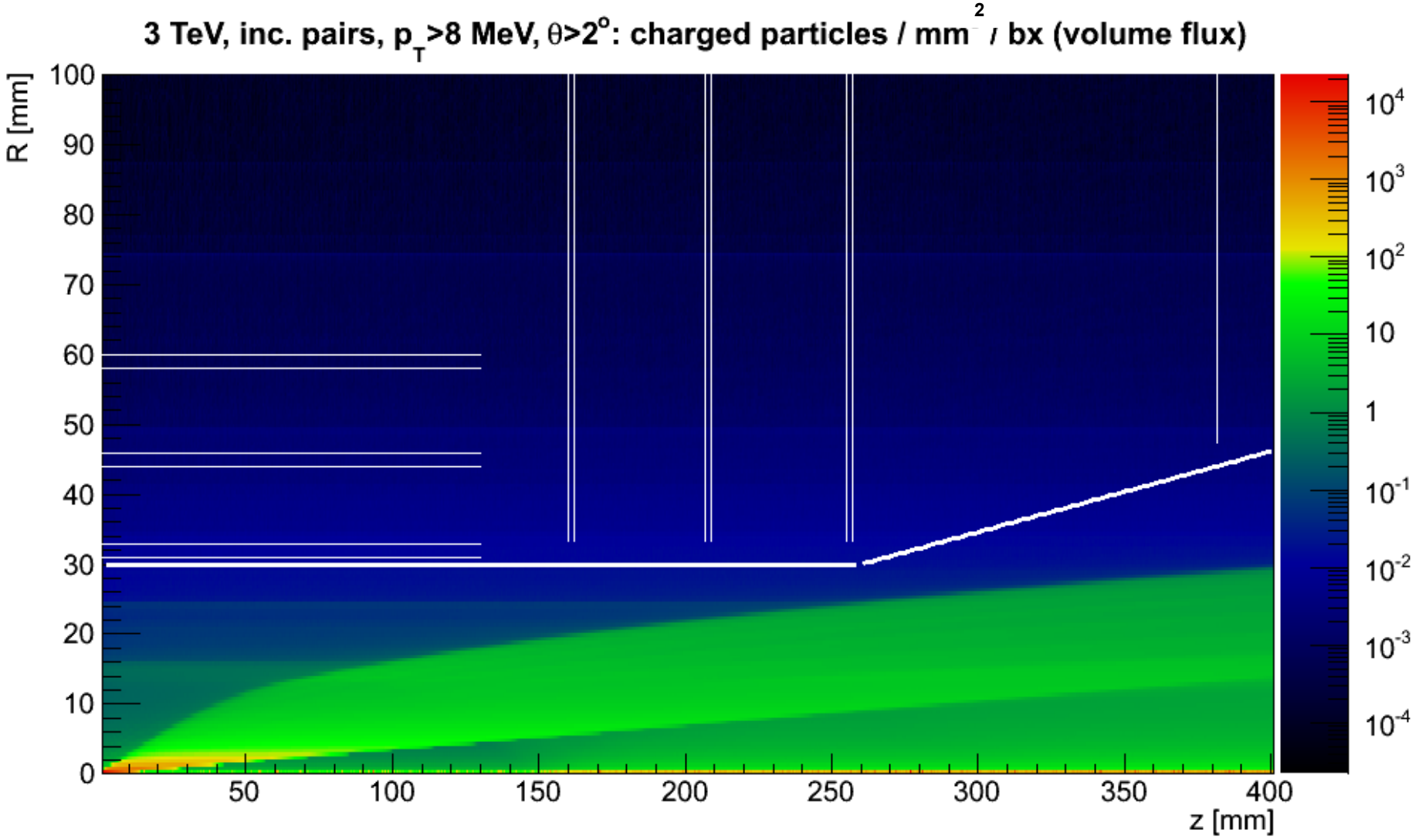


Beam-pipe geometry (simplified)

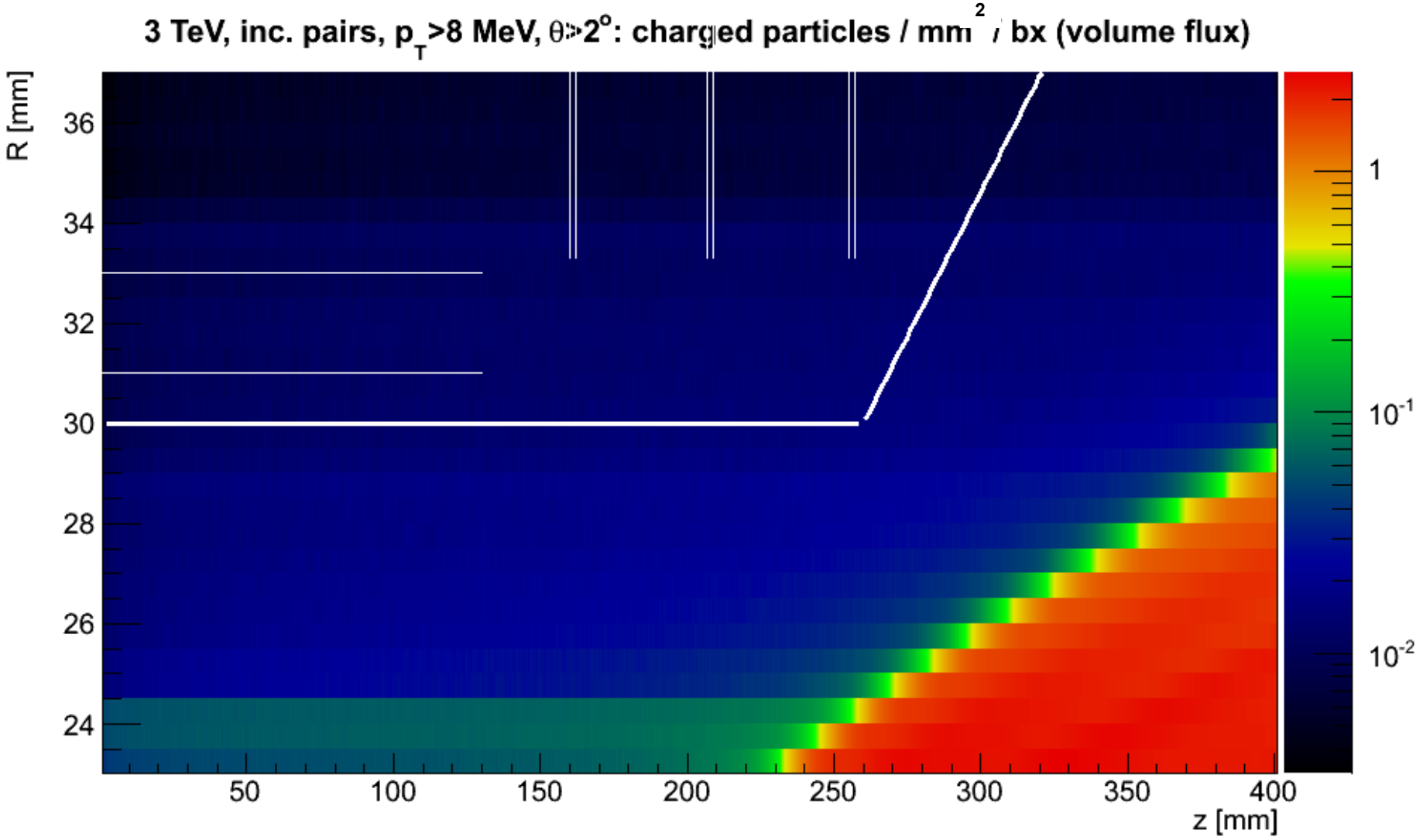


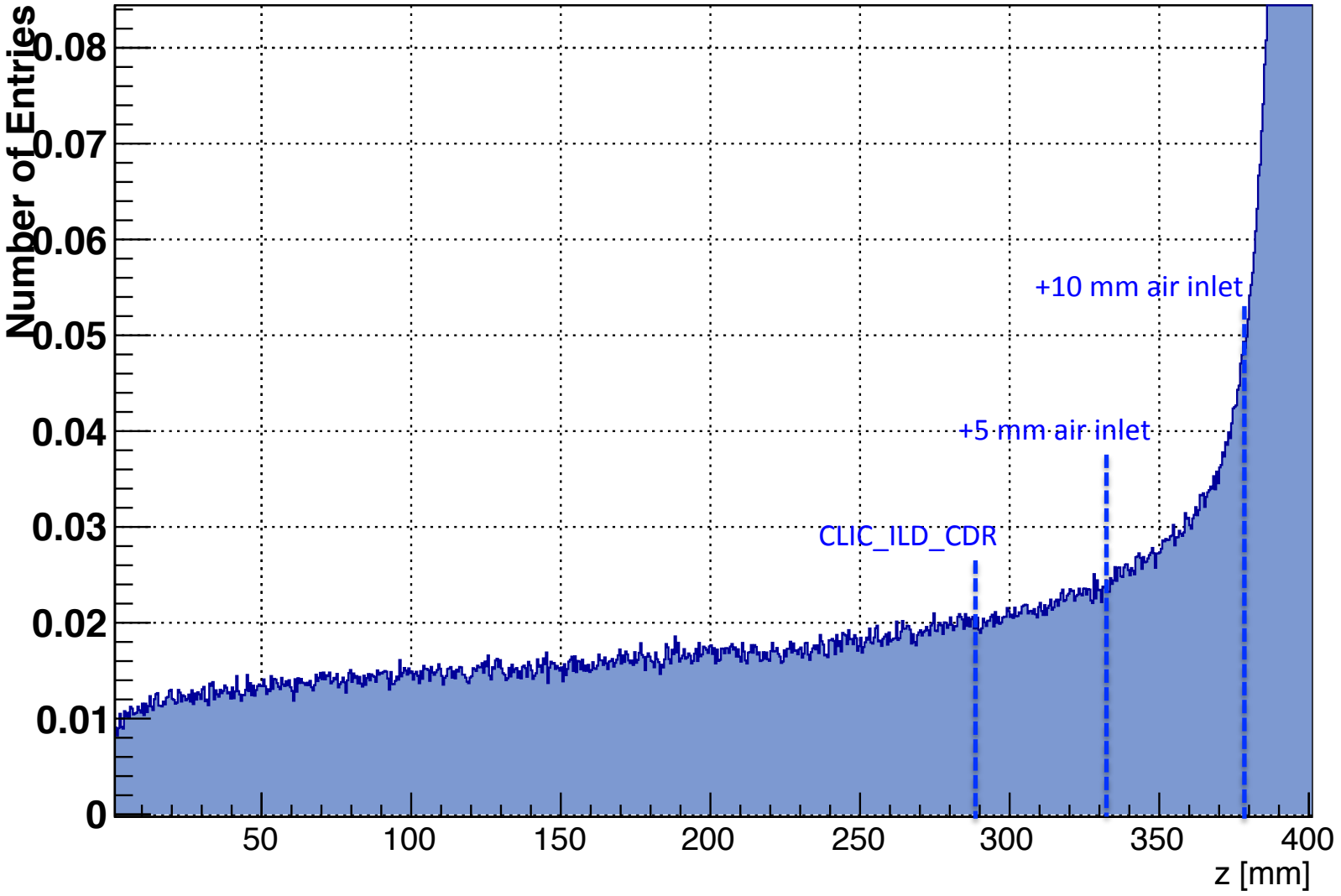
Geometry	CLIC_ILD_CDR	With 10 mm air inlet, same z edge	With 5 mm air inlet, same z edge	With 10 mm air inlet, same accept. angle	With 5 mm air inlet, same accept. angle
Rbp_vtx [mm]	29	29	29	29	29
Rbp_lumical [mm]	240	240	240	240	240
z_lumical [mm]	2450	2450	2450	2450	2450
Accept.angle [rad]	0.1137	0.1477	0.1308	0.1137	0.1137
Accept angle [deg]	**6.51**	**8.46**	**7.49**	**6.51**	**6.51**
Radial cone thickness [mm]	4	14	9	14	9
Real cone thickness	3.974	13.848	8.923	13.910	8.942
z outer straight section [mm]	254.0	194.9	220.4	254.0	254.0
z edge	**289.0**	**289.0**	**288.9**	**376.6**	**332.8**
z at Rbp_lumical [mm]	2101.7	1613.1	1824.4	2101.7	2101.7

Hit density in vertex region



Hit density in vertex region



Hit density at R=29 mm

3 TeV, incoh. pairs: charged particles / mm^2 / bx (volume flux) at R=29 mm