

MVTX Eta Coverage

$$\text{Eta} = -\ln(\tan(\theta/2))$$

Layer	Eta @Z=0	Eta @Z=10cm	Eta @Z=9.0cm	Eta @Z=0/10cm (ALICE <R>)	<R> (mm)	dLz (mm)
1	2.36	1.12	1.33	2.41/1.16	25.85	135.5
2	2.10	0.92	1.11	2.14/0.95	33.65	Lz-100 = 35.5
3	1.90	0.78	0.95	1.94/0.80	41.25	Lz - 90 = 45.5

Note: MVTX radius increased by 1.3mm to fit sPHENIX beam pipe, from the full proposal, 2/4/2018

R1 = 23.7 – 28.0 mm <R1> = 25.85 mm

R2 = 31.4 – 35.9 mm <R2> = 33.65 mm

R3 = 39.1 – 43.4 mm <R3> = 41.25 mm, dZ' = 4.85cm, Lz' = 135.5 – 48.5 = 87mm; R3 -> eta = 1.0