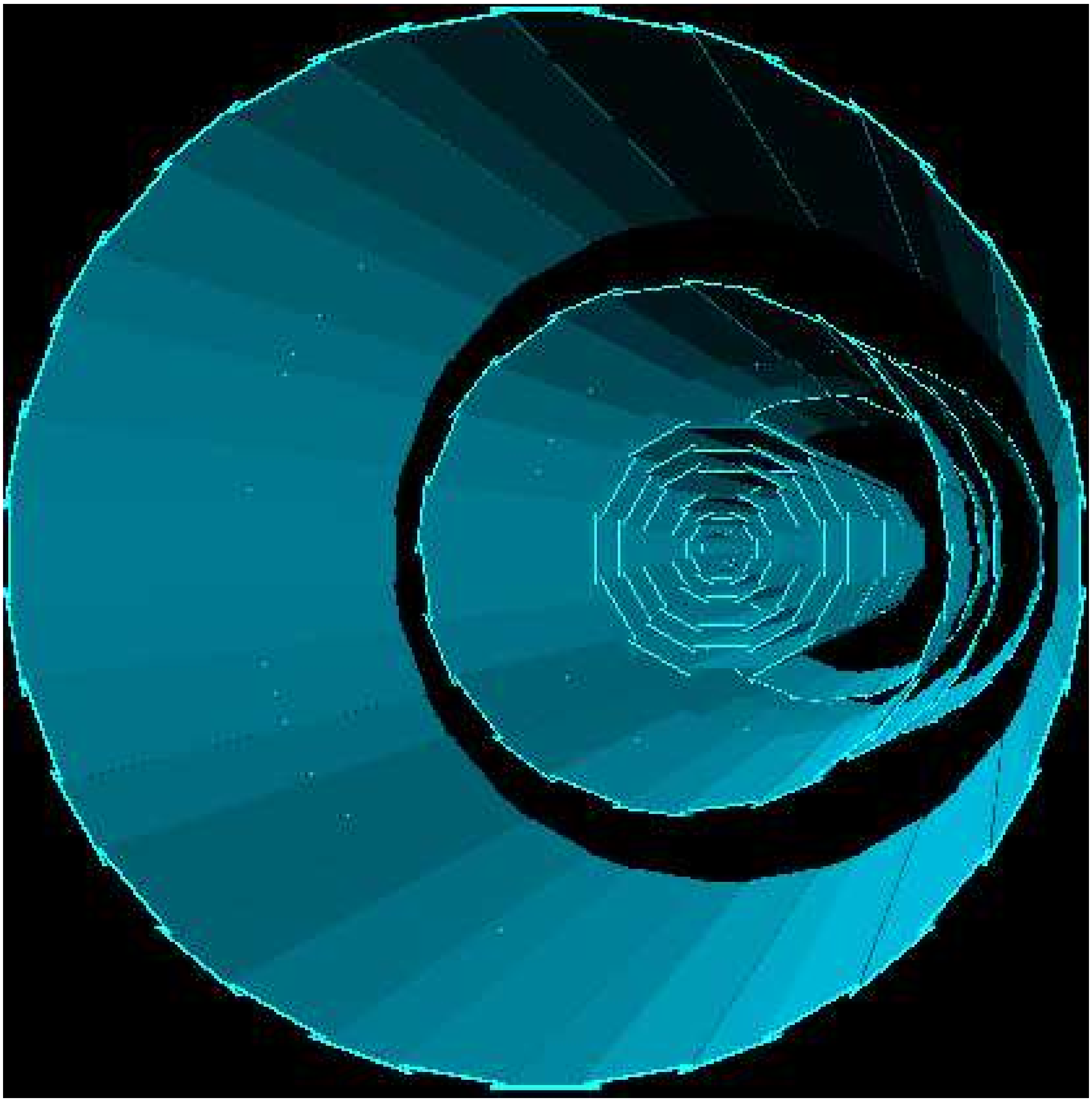
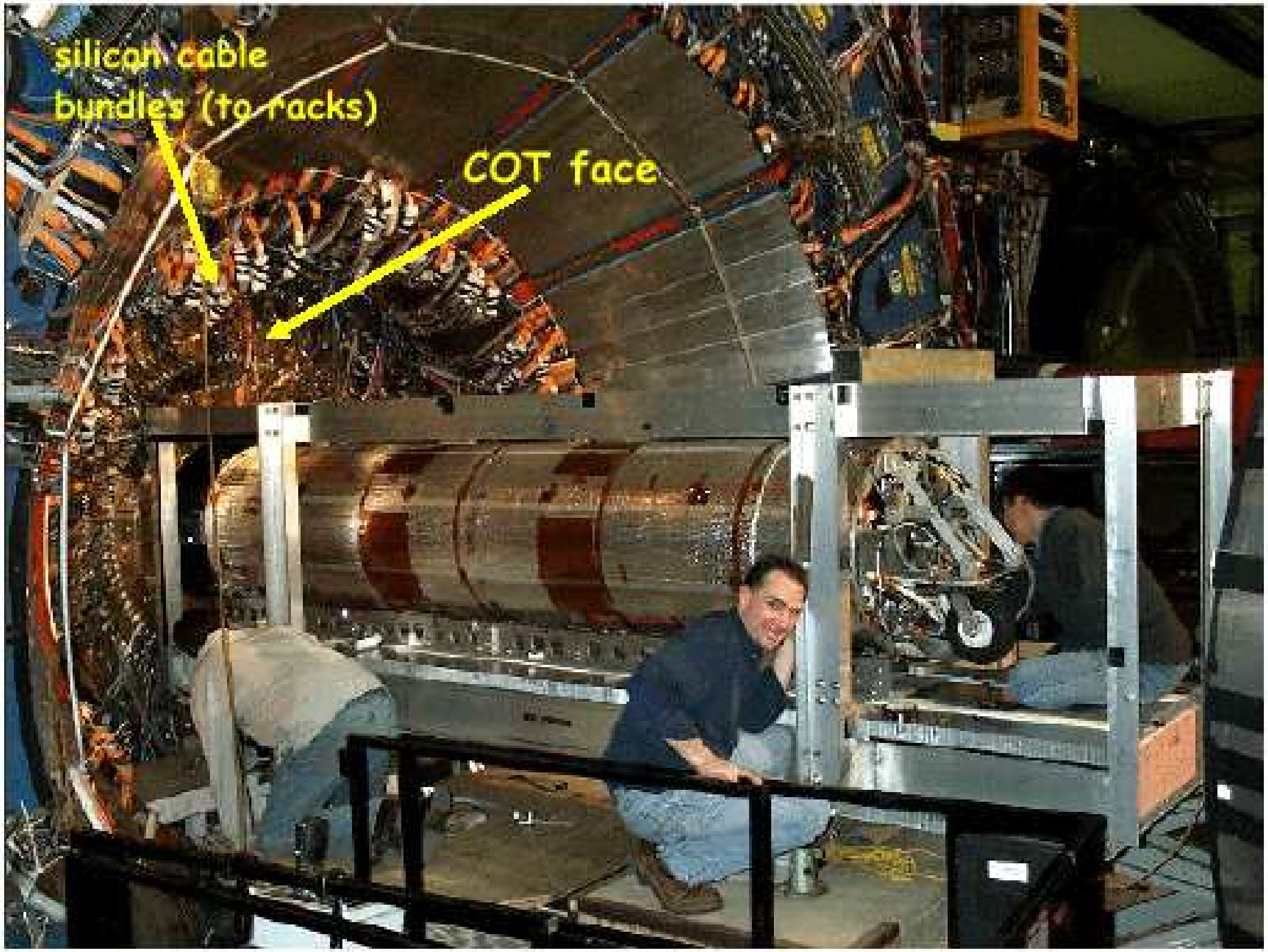
Three Barrels of Silicon



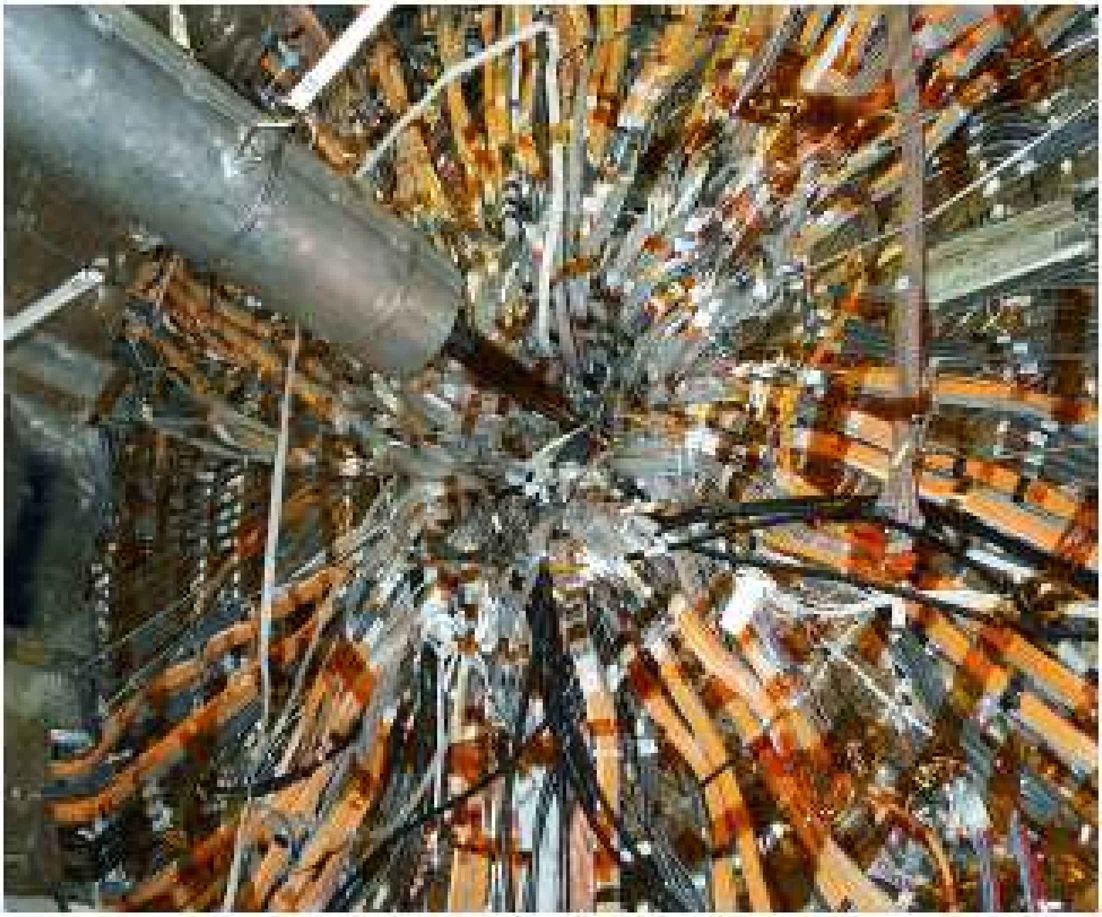
Si Vital Stats

Layer	Radii (cm)	$\phi(\mu\mathrm{m})$	$\alpha(^\circ)$	$\phi'/z(\mu\mathrm{m})$
0	1.35/1.62	50	-	-
1	2.5/3.0	60	90	141
2	4.1/4.6	62	90	125.5
3	6.5/7.0	60	1.2	60
4	8.2/8.7	60	90	141
5	10.1/10.6	65	1.2	65
6F	19.7/20.2	112	1.2	112
6C	22.6/23.1	112	1.2	112
7F	28.6/29.0	112	1.2	112

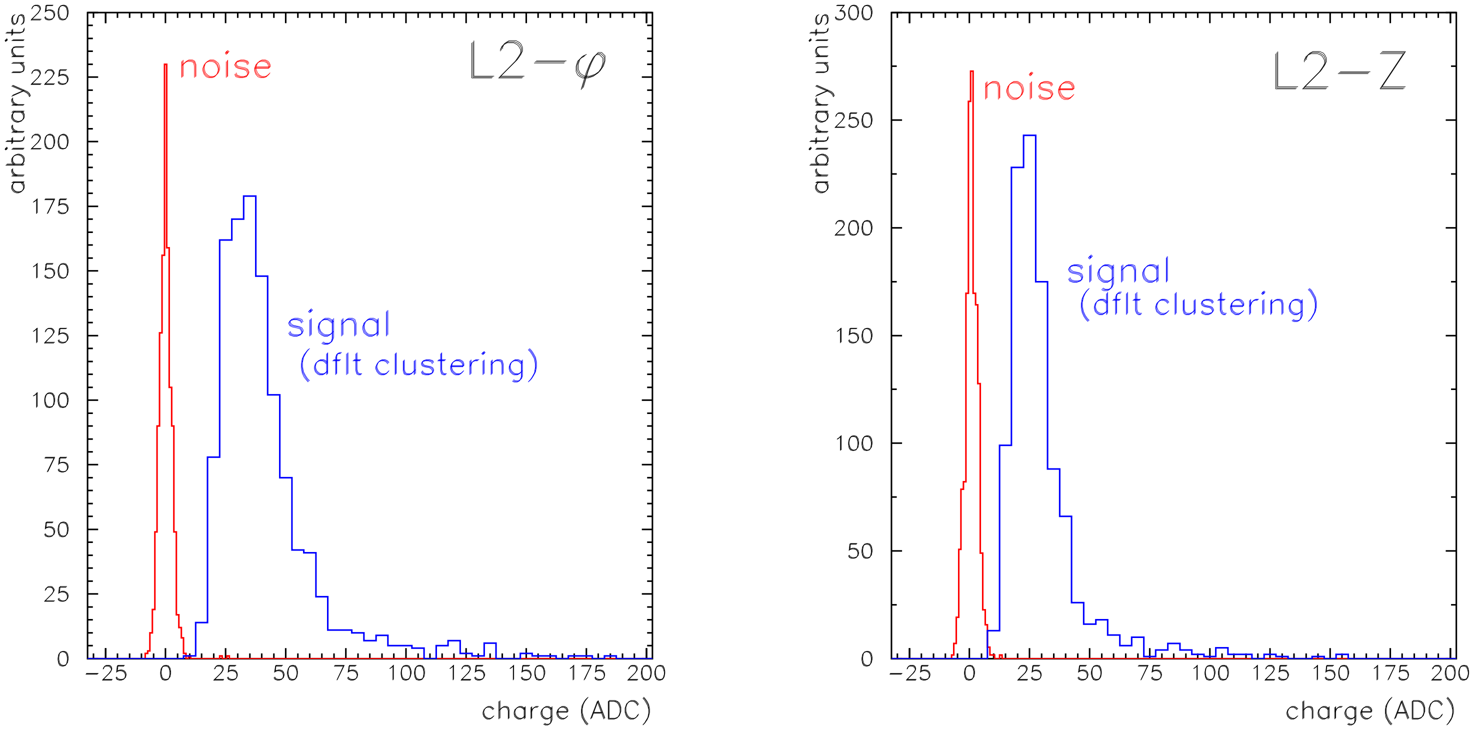

silicon cable
bundles (to racks)
COT face

Plugging

Connecting the full detector took 7 weeks, 24 hrs/day, 4 people at a time!

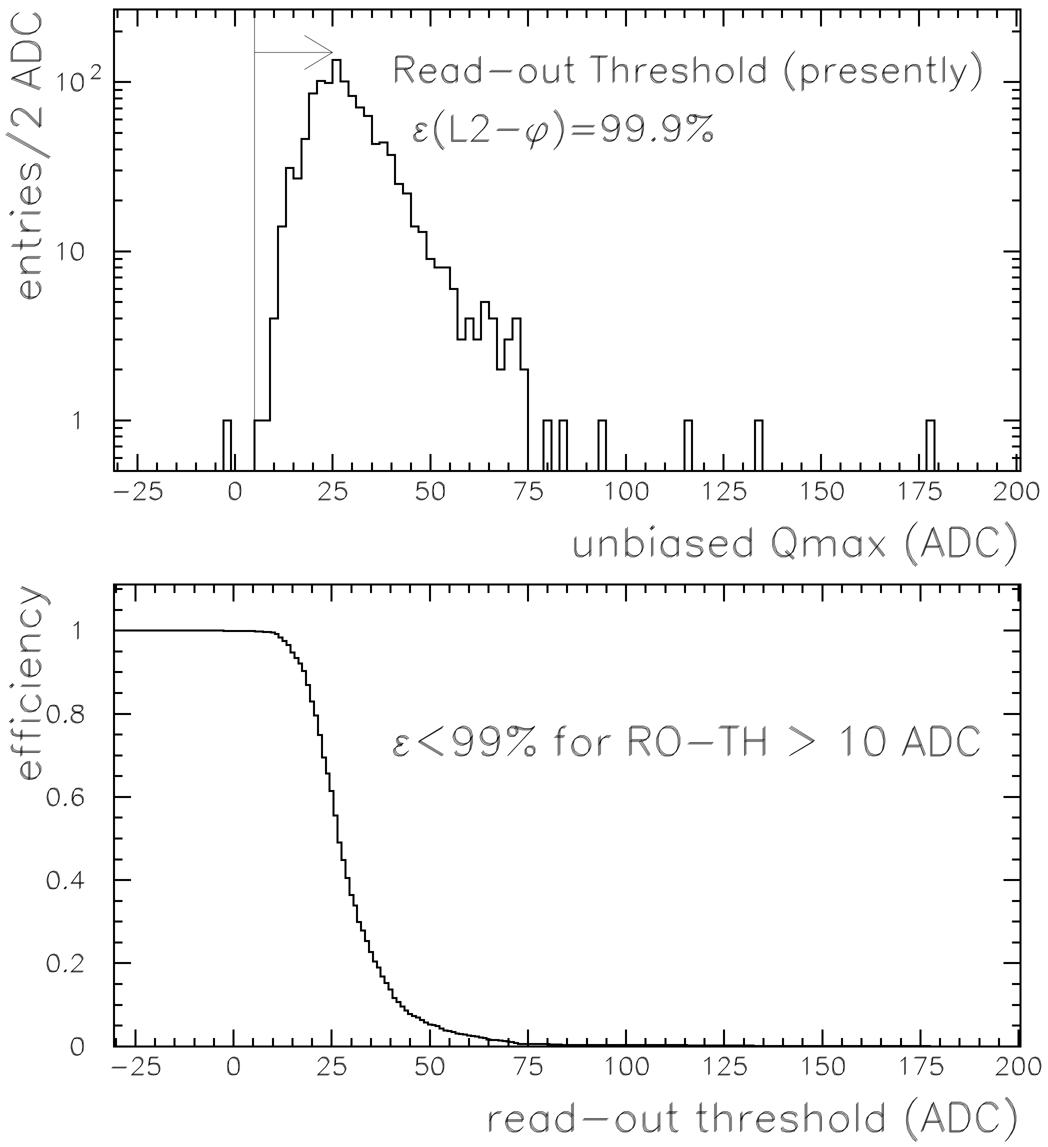


Very High Single Hit S/N

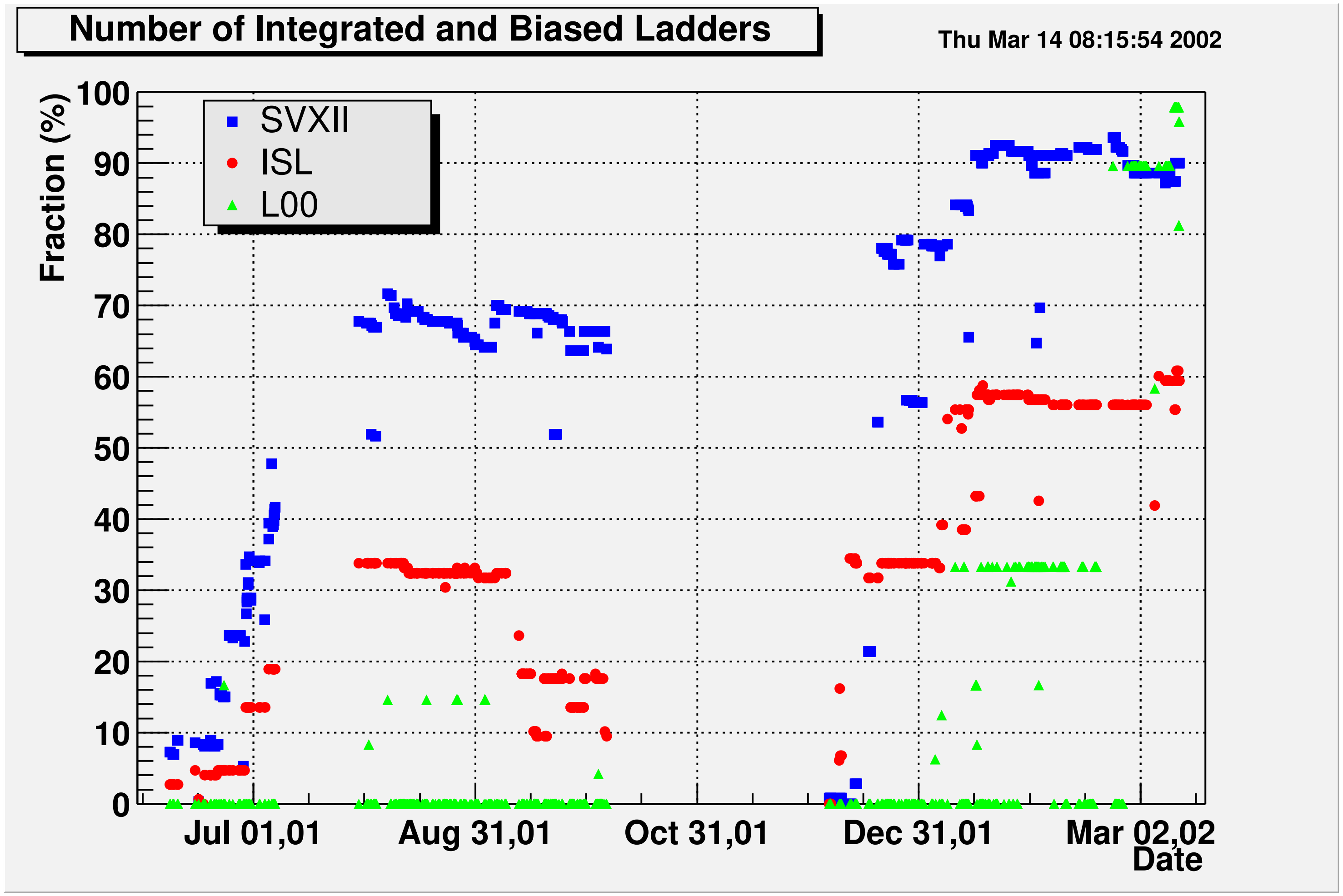


Very High Single Hit Eff

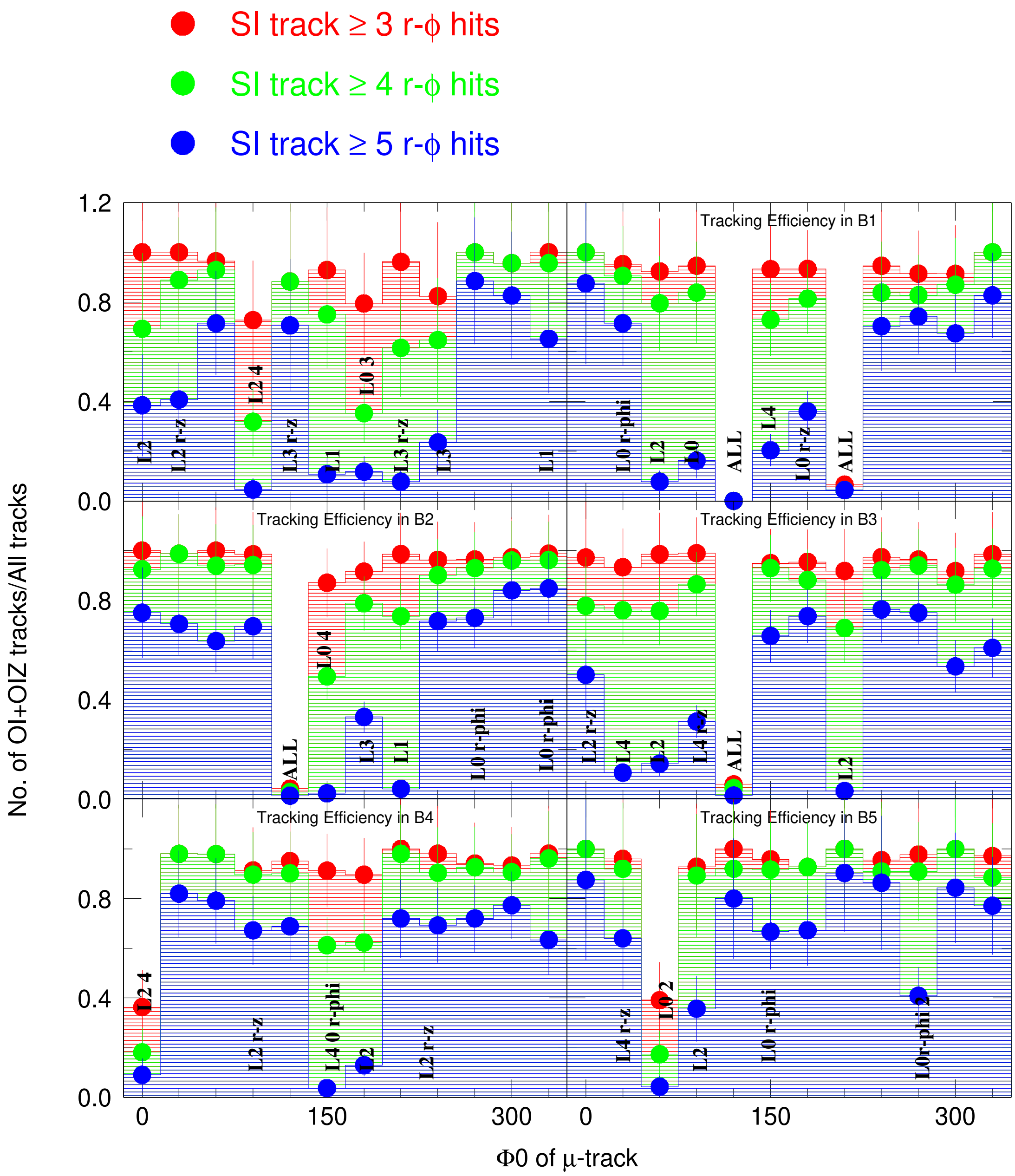
read–out efficiency for physics



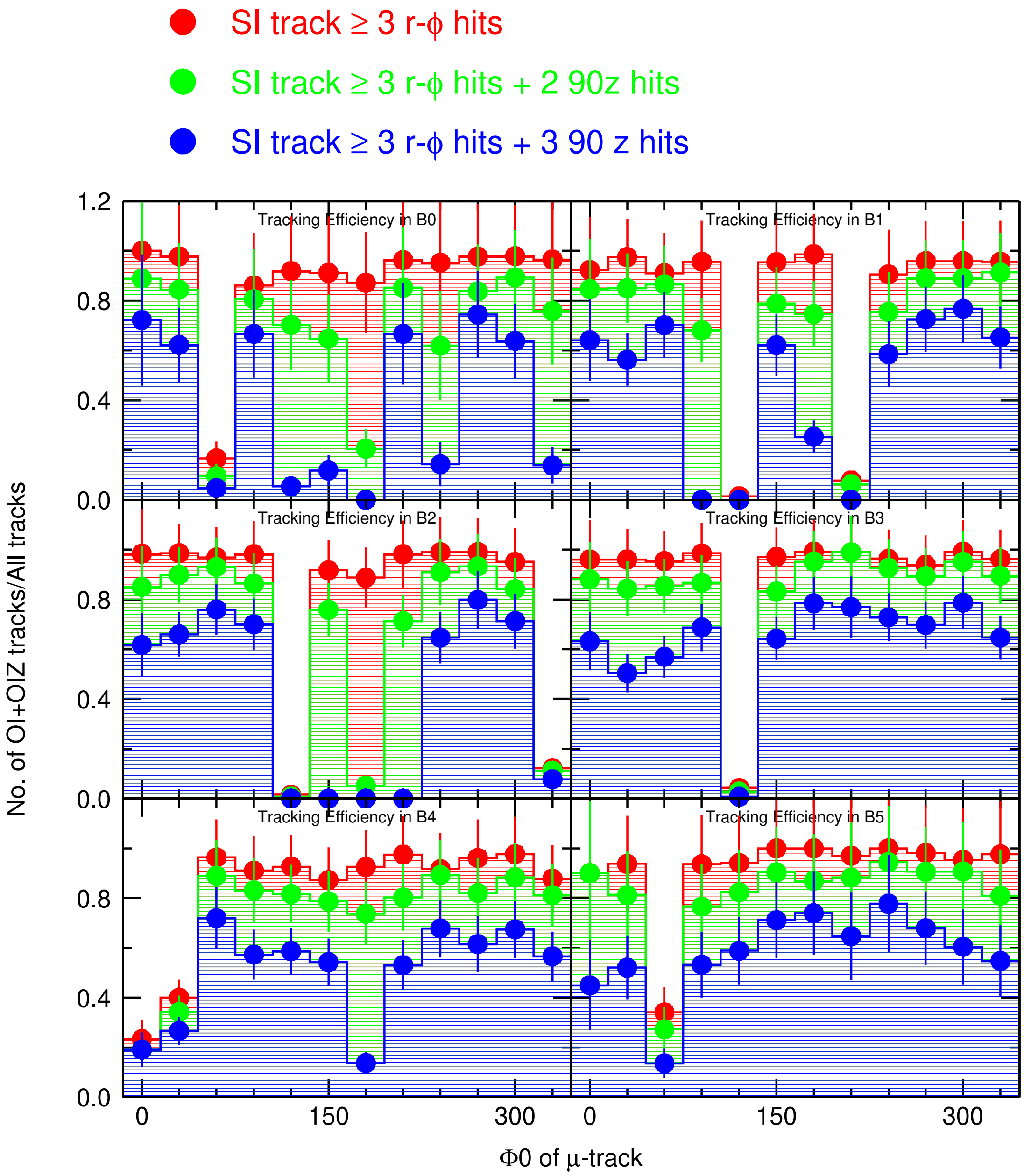
Conquering Many Problems



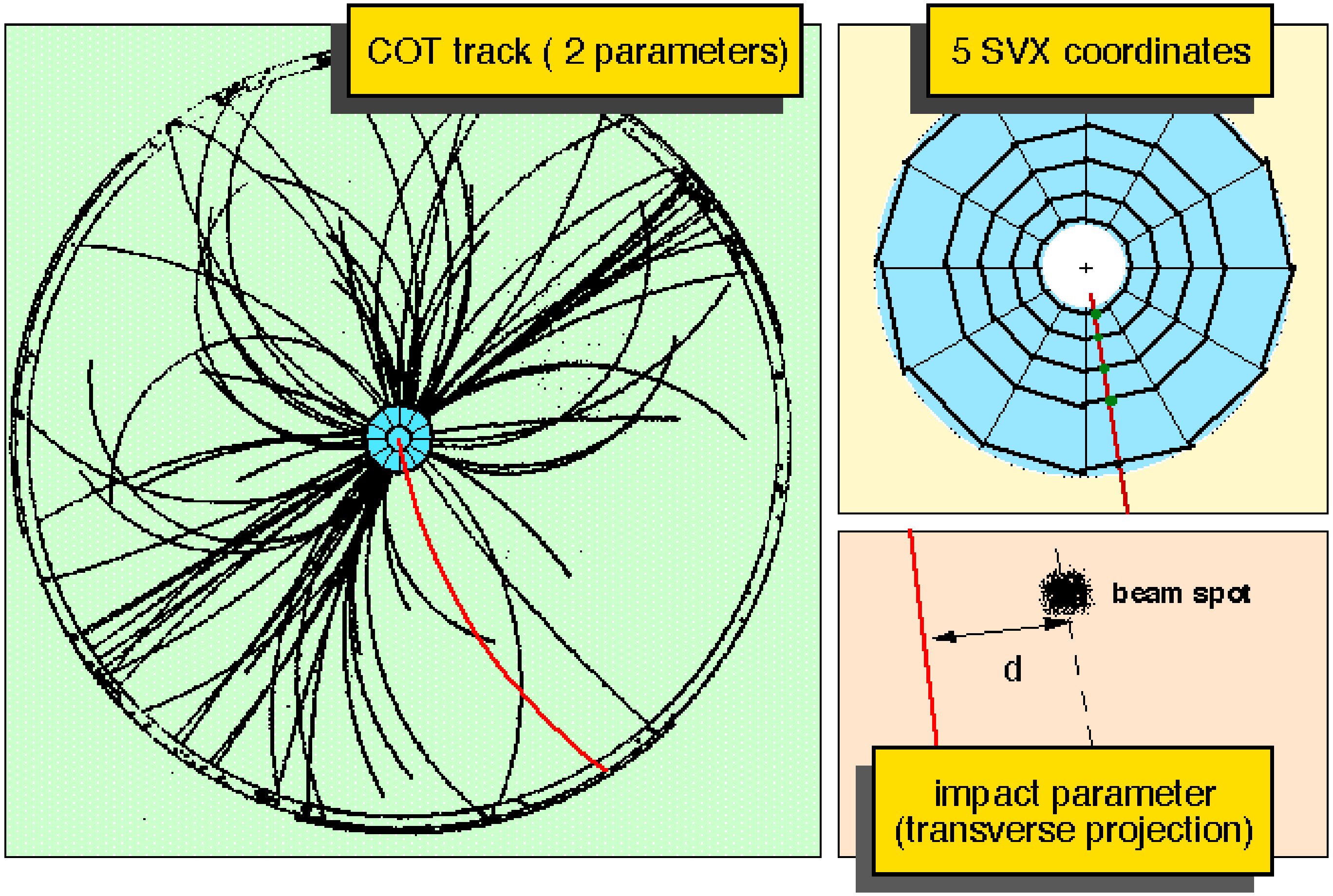
Ready for Preliminary Physics!



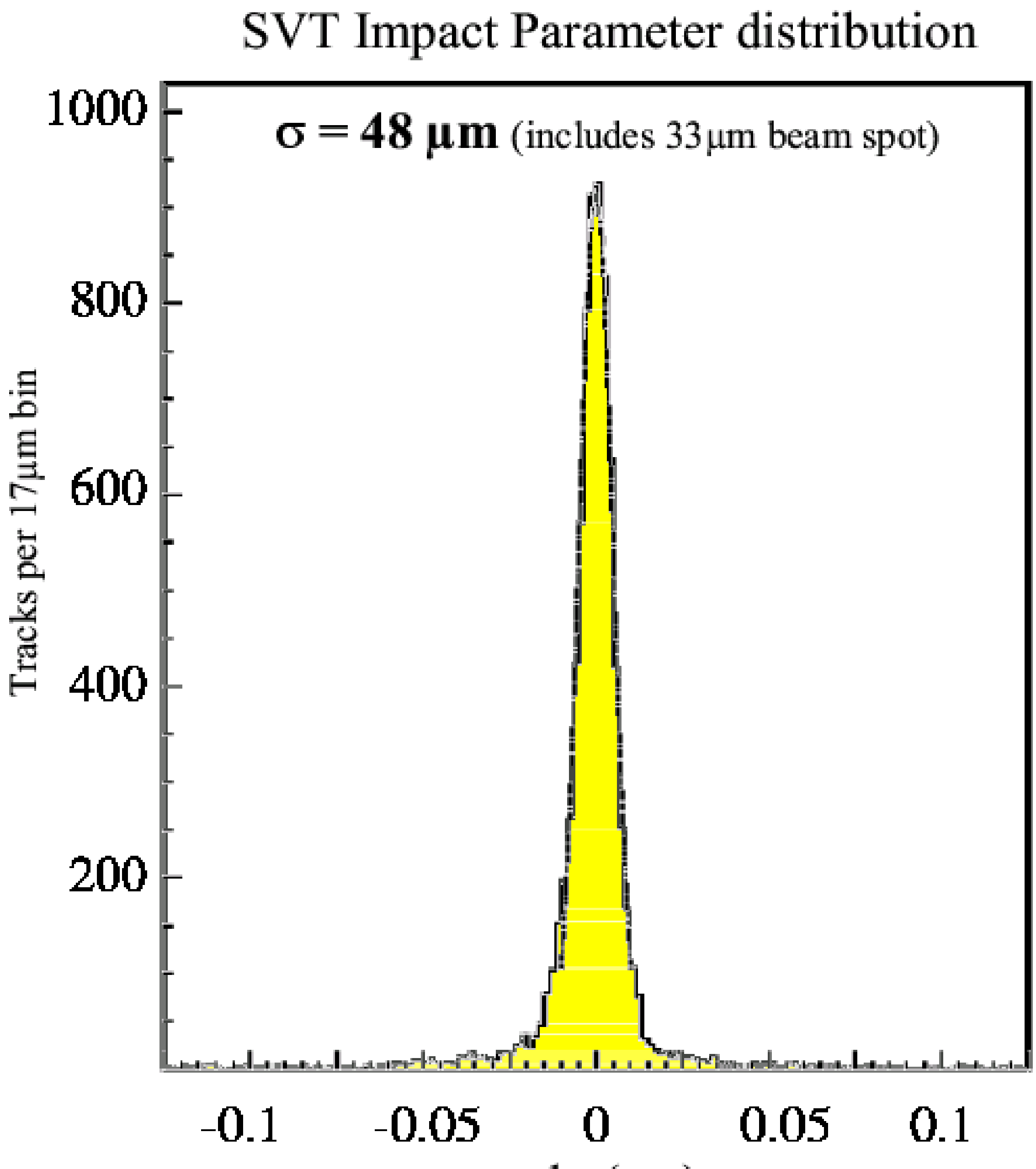
Ready for Preliminary Physics!



Secondary Vertex Trigger



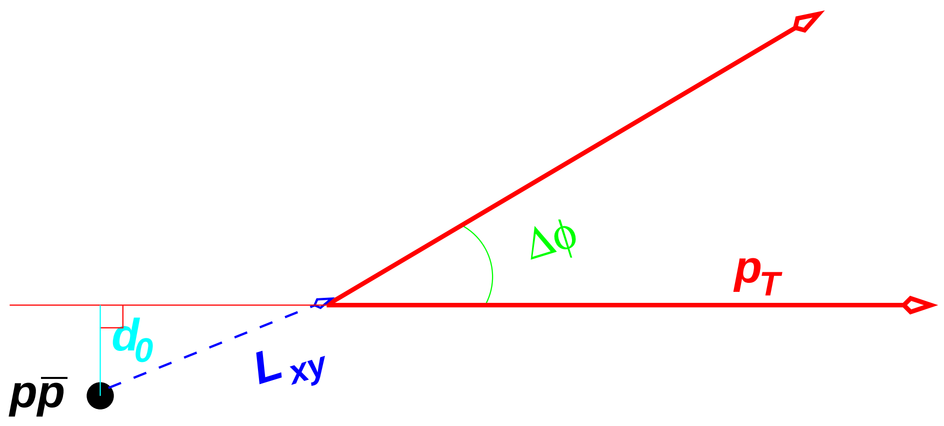
L2 Vertex Resolution



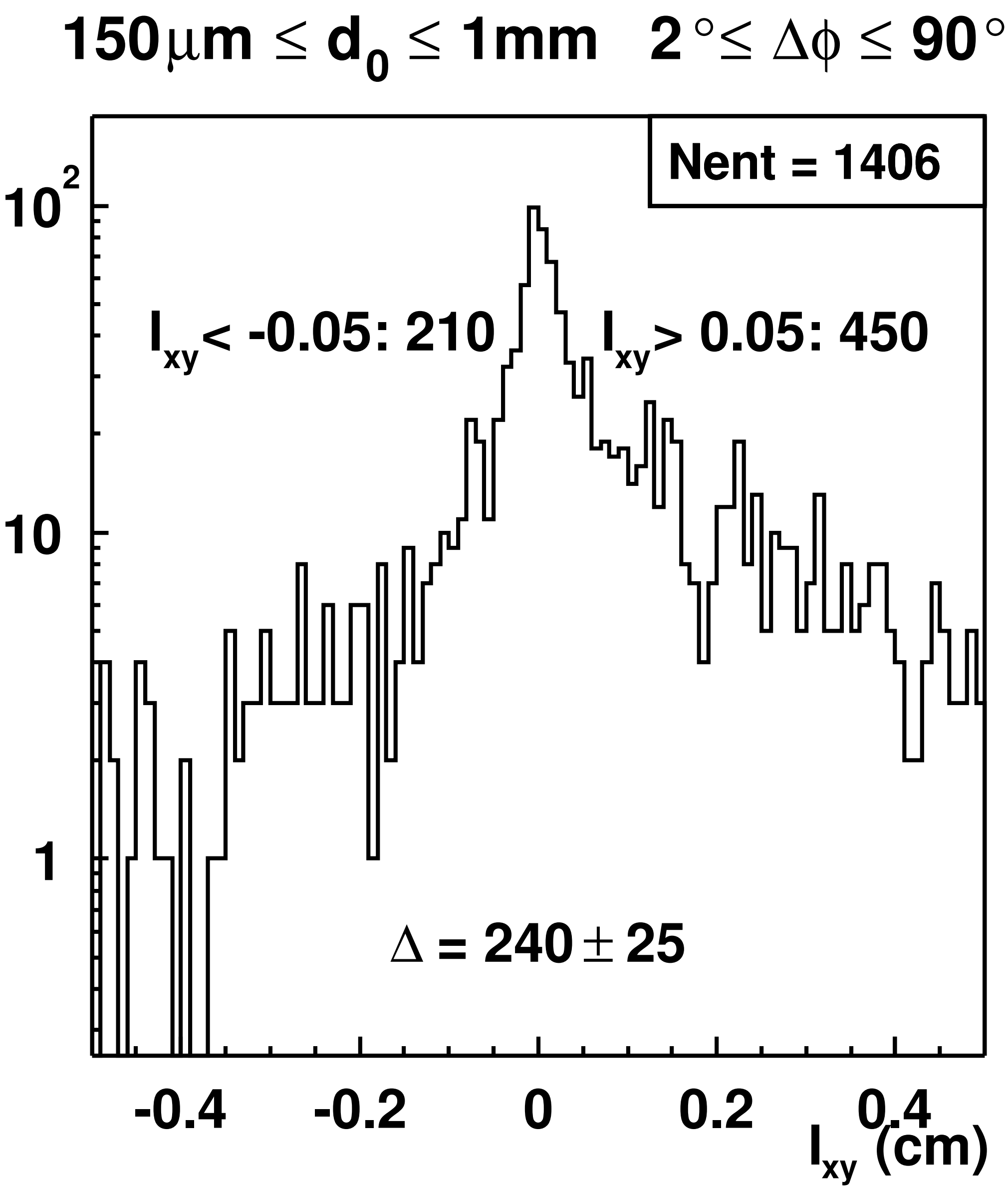
Cuts Applied at L2

Make 2-track secondary vertex in XY-plane from:

- $p_t > 2$ GeV XFT tracks
- $150\ \mu\mathrm{m} < d_0 < 1000\ \mu\mathrm{m}$
- $100\mathrm{mrad} < \Delta\phi < \pi\mathrm{rad}$
- SVT $\chi^2 < 10$



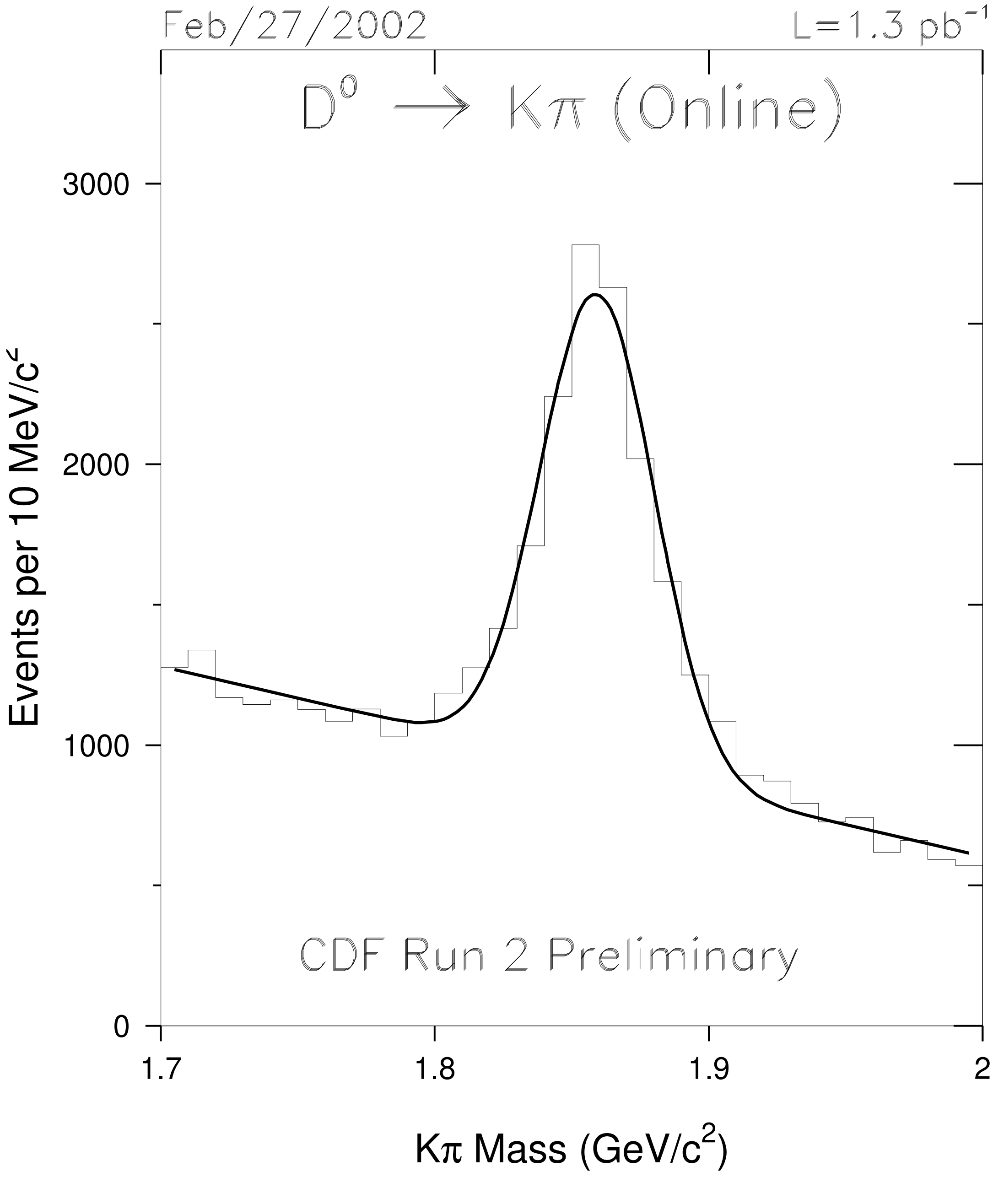
2D Decay Length After Cuts



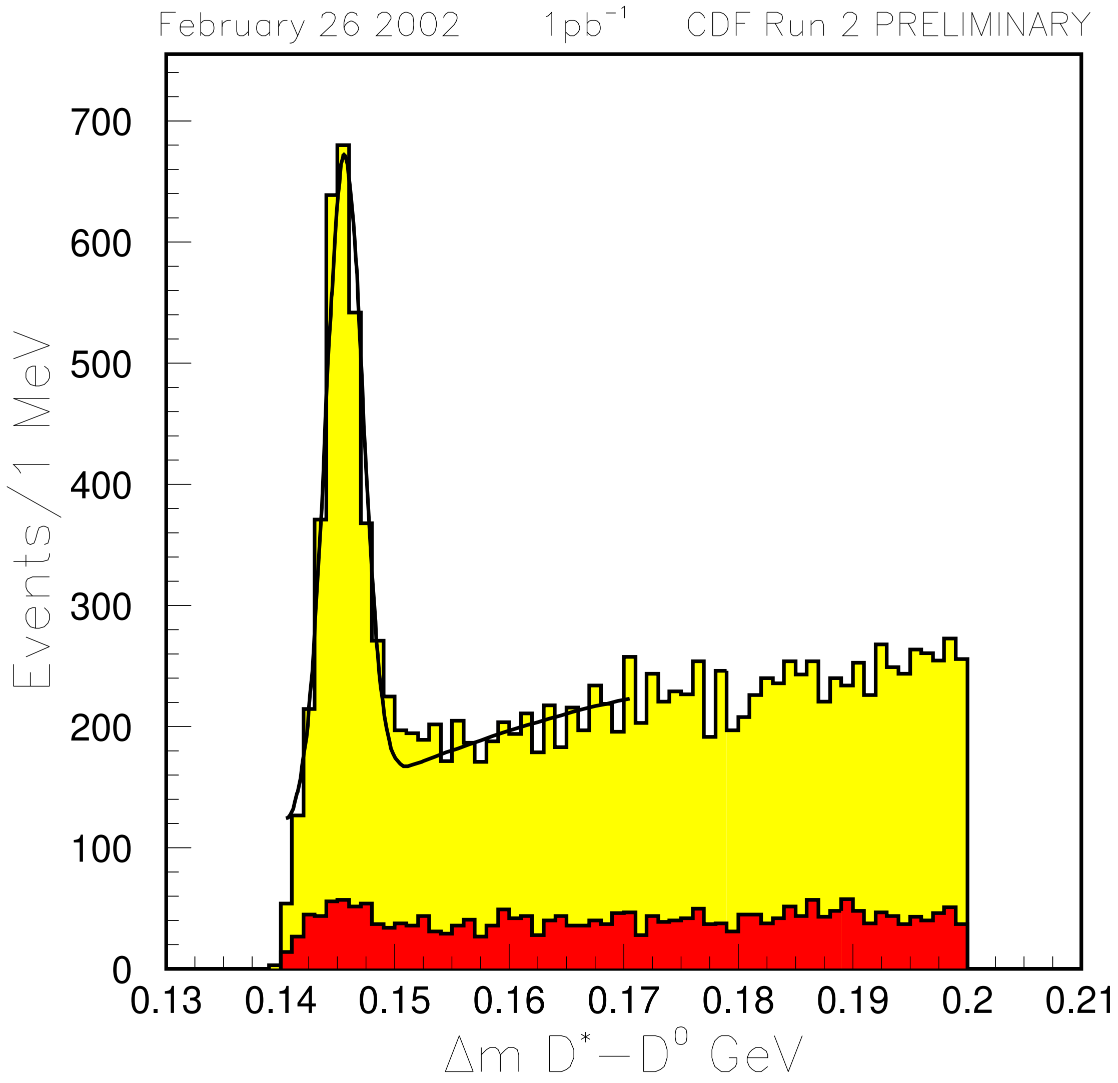
Hadronic Heavy Flavor Physics!

- 1st time a hadron collider experiment can trigger on hadronic decays of heavy flavor
- Currently seeing direct charm production with L2+L3 tags

Online $D^0 \to K\pi$



Online $\mathrm{D}^* \to \mathrm{D}^0\pi, \mathrm{D}^0 \to \mathrm{K}\pi$



Offline B Reconstruction