

*A SUMMARY ON POLARISATION IN RUN-12
FOR 255 GEV*

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PRESENTING THE WORK DONE BY ALAN,
ANDERS, BILL AND DIMA*

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NATIONAL LABORATORY

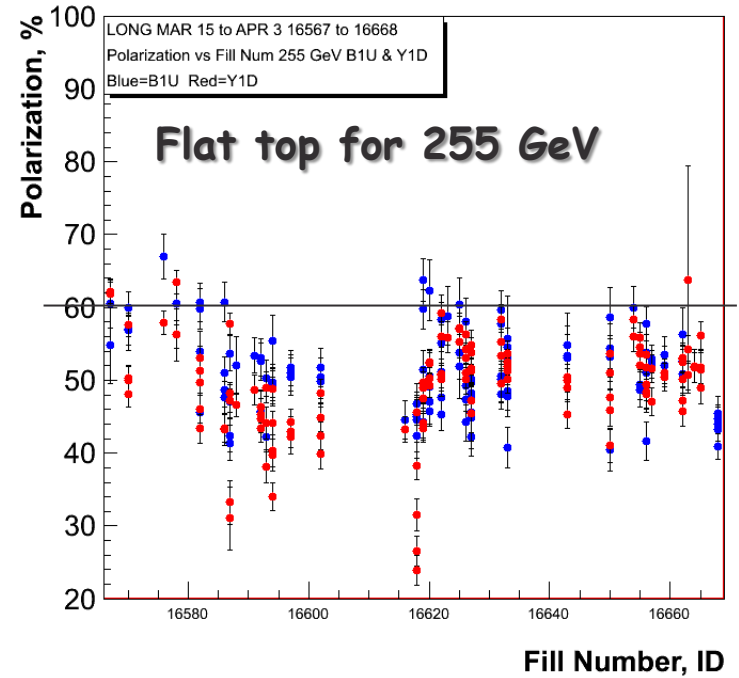
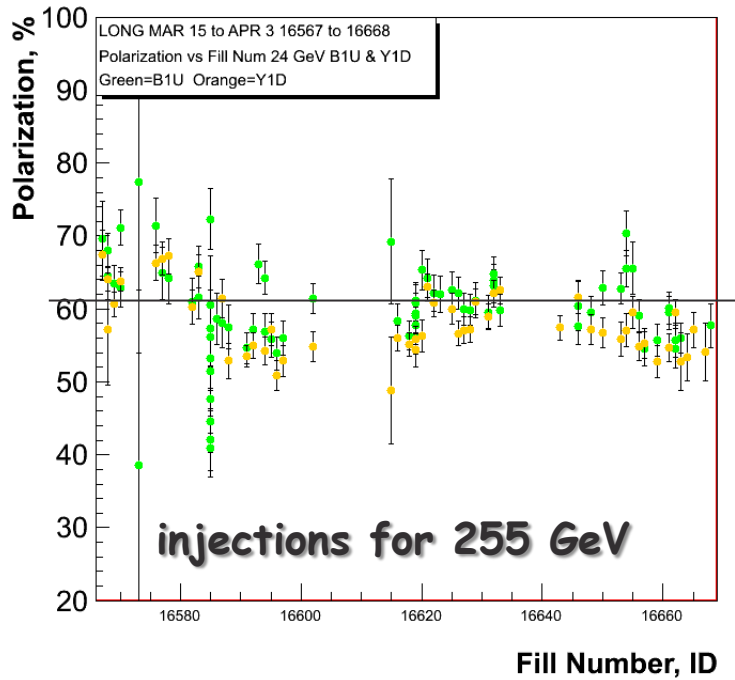
a passion for discovery



U.S. DEPARTMENT OF
ENERGY

Office of
Science

255 GEV RESULTS

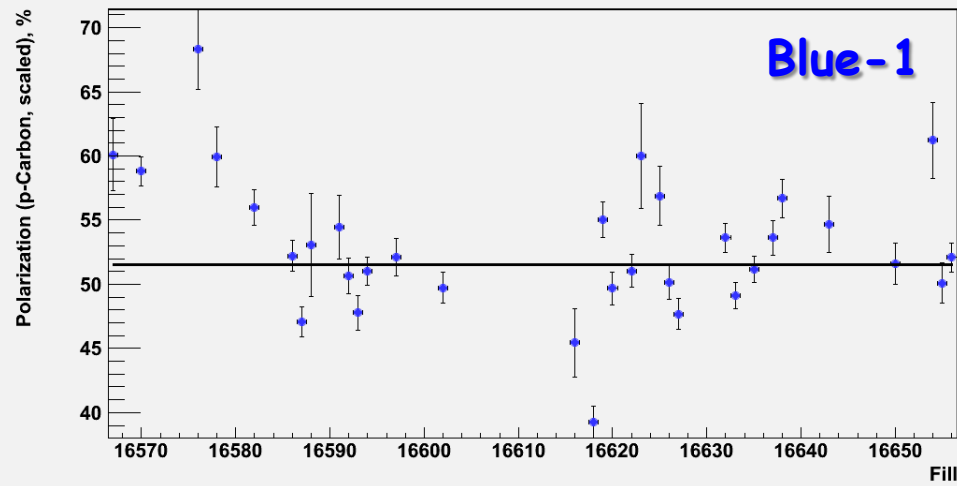


polarisation at injection
Blue and Yellow

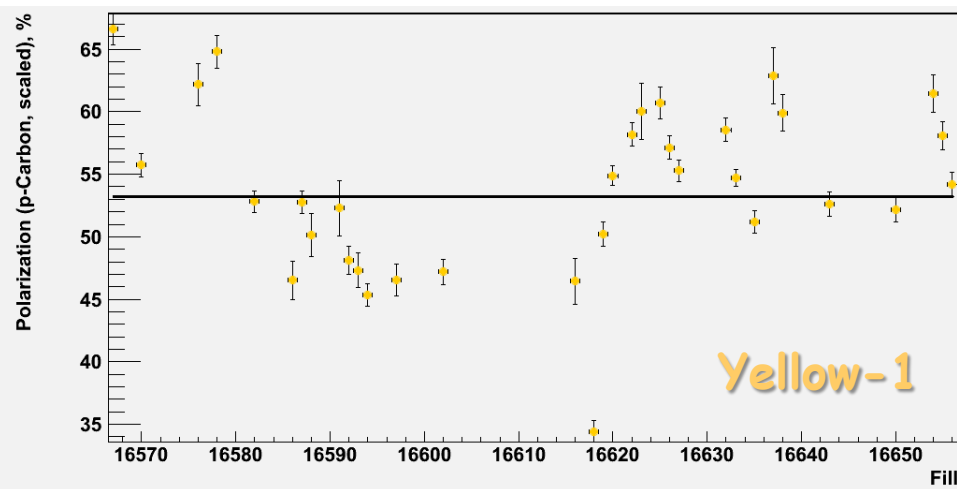
Caveat:

Online pC numbers not normalized
to jet

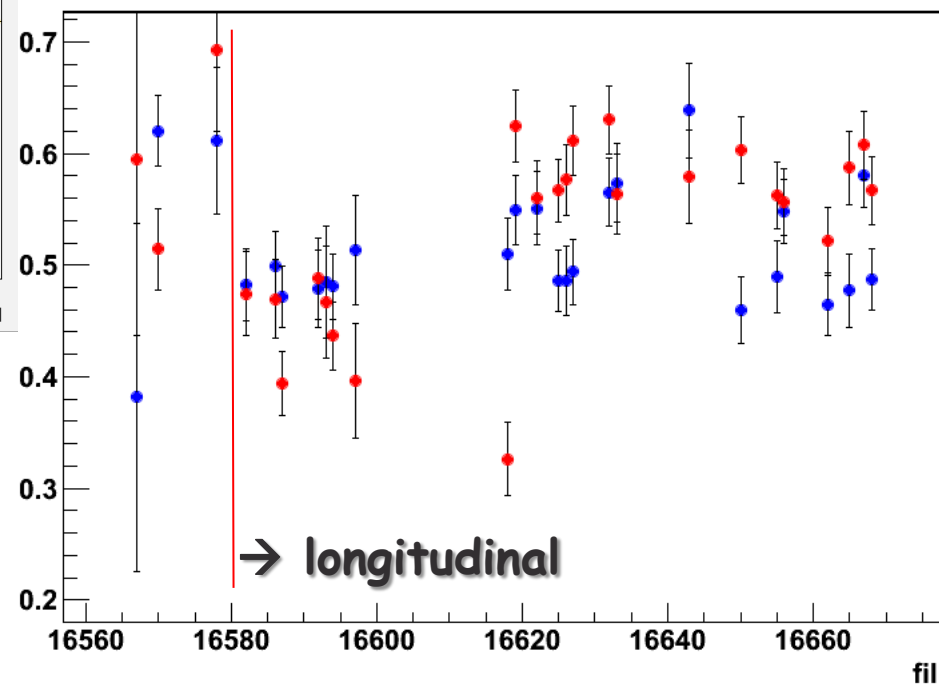
255 GEV RESULTS



polarisation at flat top
Blue and Yellow

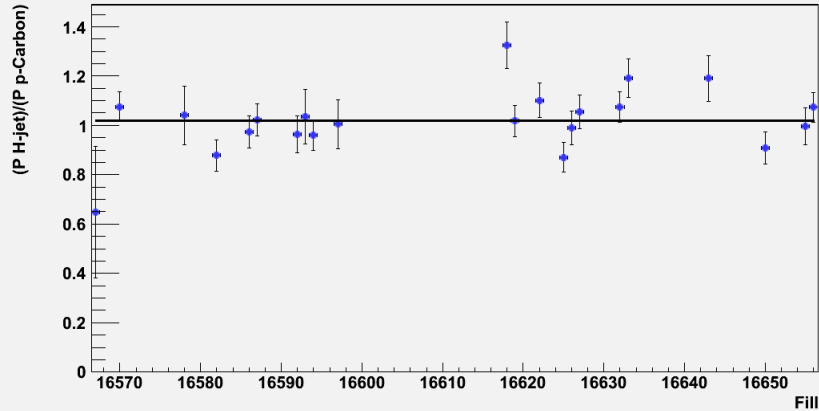


H-Jet



NORMALIZATION TO H-JET

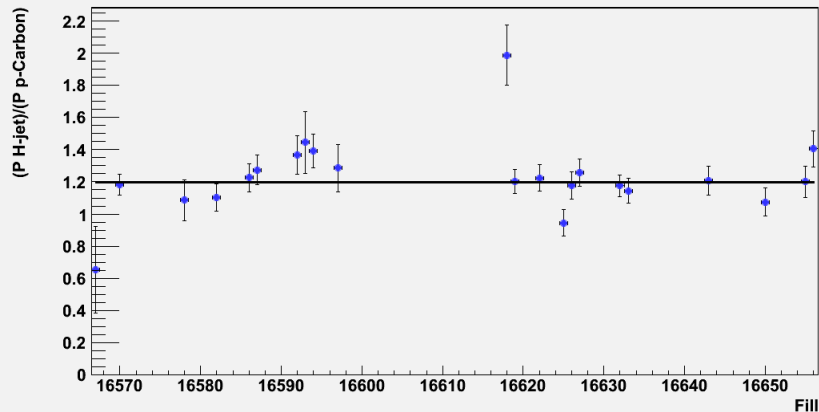
16656.309: Taken Sat Mar 31 19:28:52 2012, Analyzed Sat Mar 31 20:45:12 2012, Version 1695, dsmirnov



hNormJCVsFill_B1U_255	
Entries	2566
Mean	1.661e+04
RMS	26.64
χ^2 / ndf	41.29 / 21
Prob	0.005158
p0	1.02 ± 0.02

Blue-1: already in good agreement with jet

16656.309: Taken Sat Mar 31 19:28:52 2012, Analyzed Sat Mar 31 20:45:12 2012, Version 1695, dsmirnov

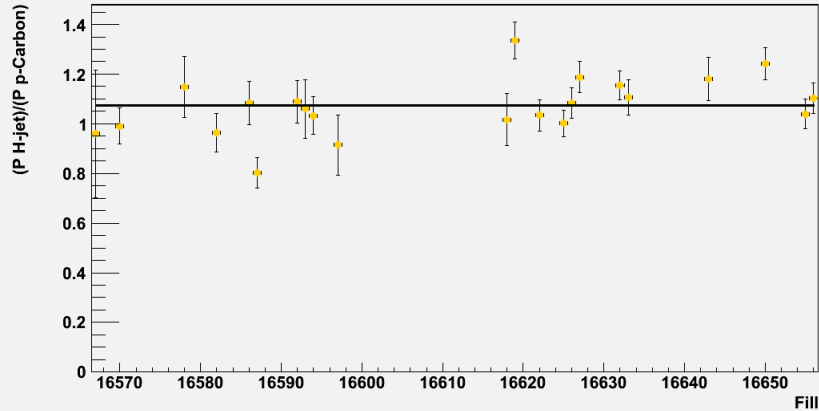


hNormJCVsFill_B2D_255	
Entries	2312
Mean	1.661e+04
RMS	26.27
χ^2 / ndf	48.54 / 21
Prob	0.0005796
p0	1.2 ± 0.0

Blue-2: experimental polarimeter need a to normalize by 1.2

NORMALIZATION TO H-JET

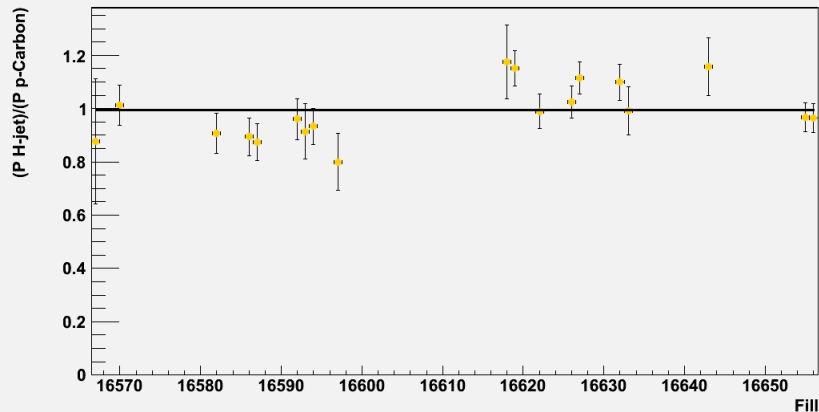
16656.309: Taken Sat Mar 31 19:28:52 2012, Analyzed Sat Mar 31 20:45:12 2012, Version 1695, dsmirnov



hNormJCVsFill_Y1D_255	
Entries	2711
Mean	1.661e+04
RMS	27.08
χ^2 / ndf	55.36 / 21
Prob	6.27e-05
p0	1.073 ± 0.016

Yellow-1: need a to normalize by 1.07

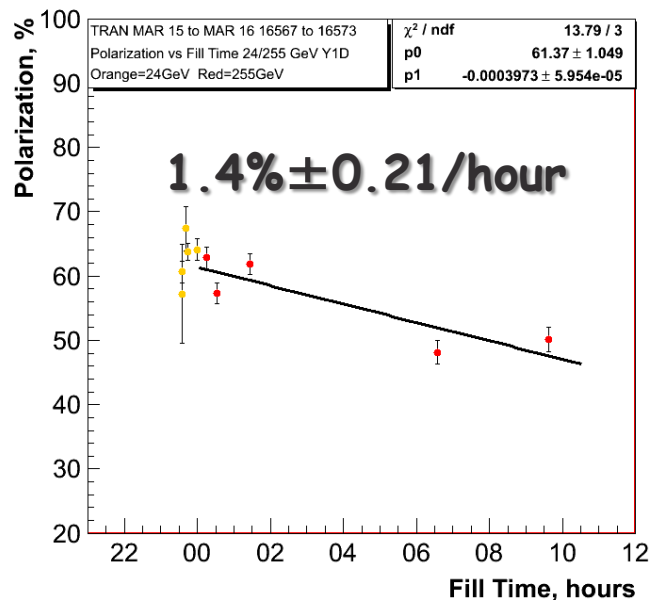
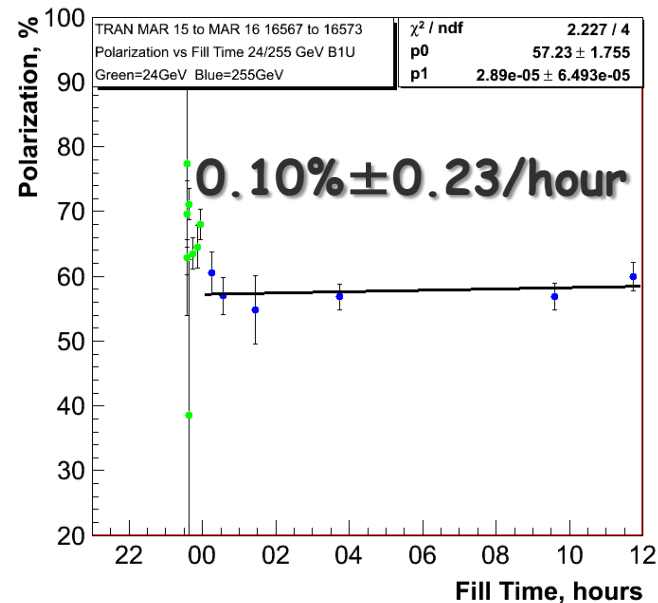
16656.309: Taken Sat Mar 31 19:28:52 2012, Analyzed Sat Mar 31 20:45:12 2012, Version 1695, dsmirnov



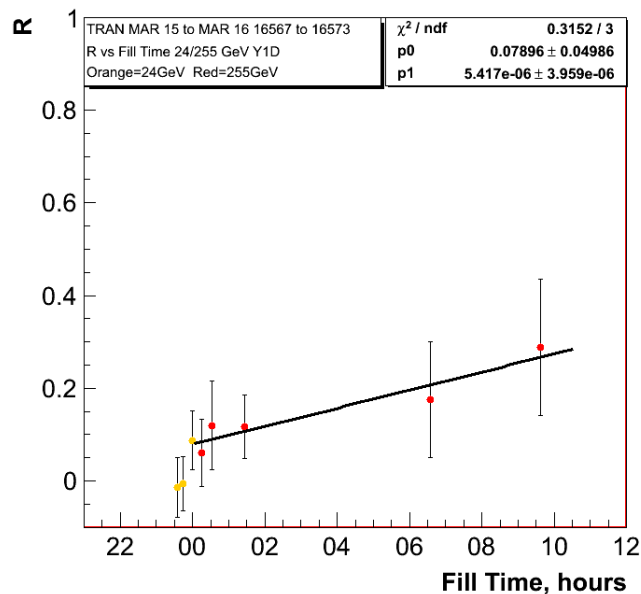
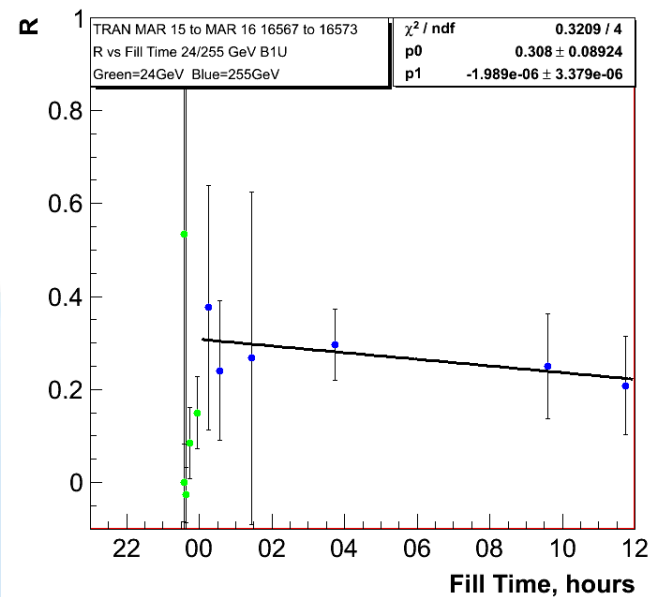
hNormJCVsFill_Y2U_255	
Entries	2029
Mean	1.661e+04
RMS	26.31
χ^2 / ndf	28.27 / 18
Prob	0.05808
p0	0.9937 ± 0.0169

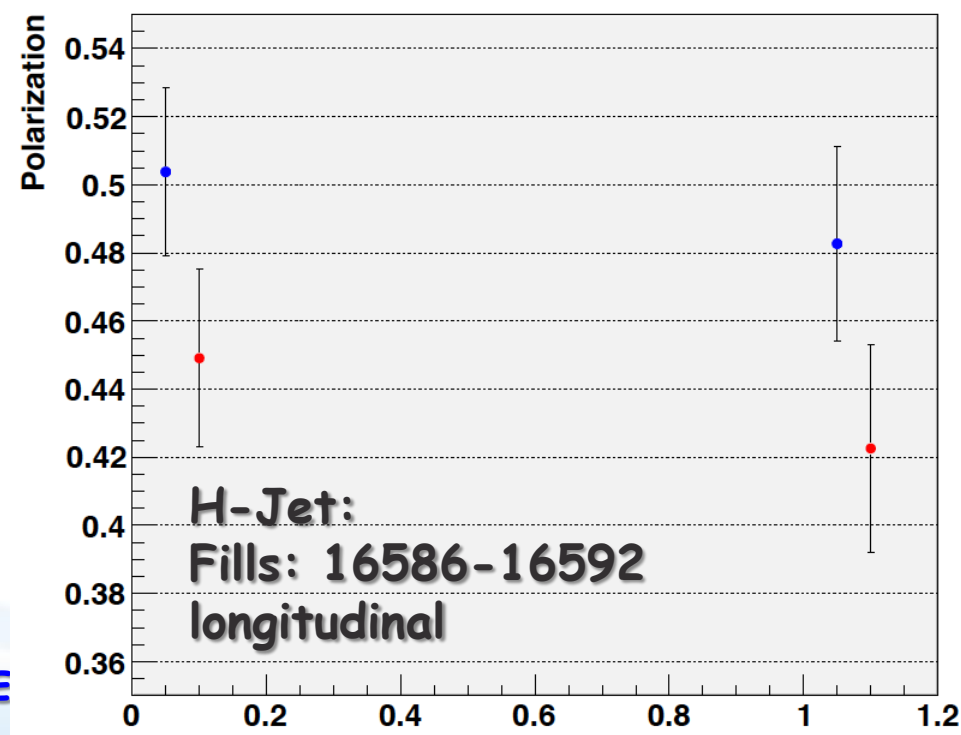
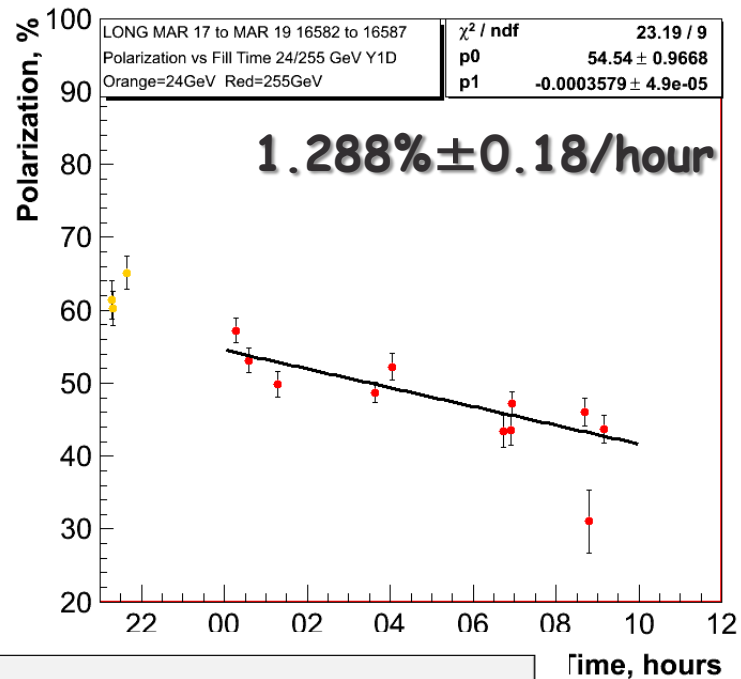
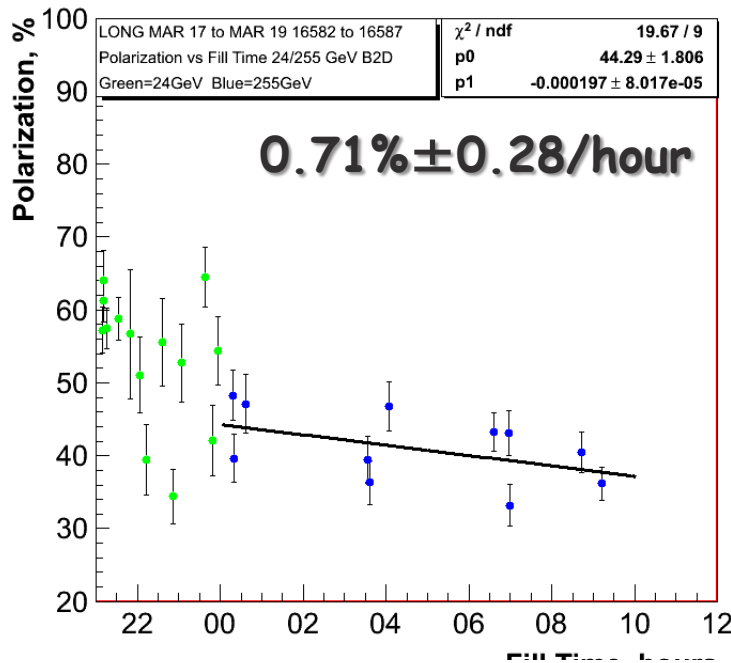
Yellow-2: already in good agreement with jet

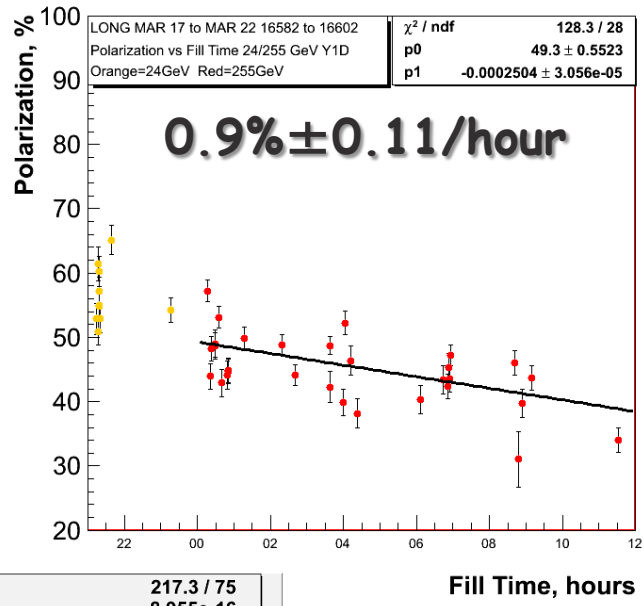
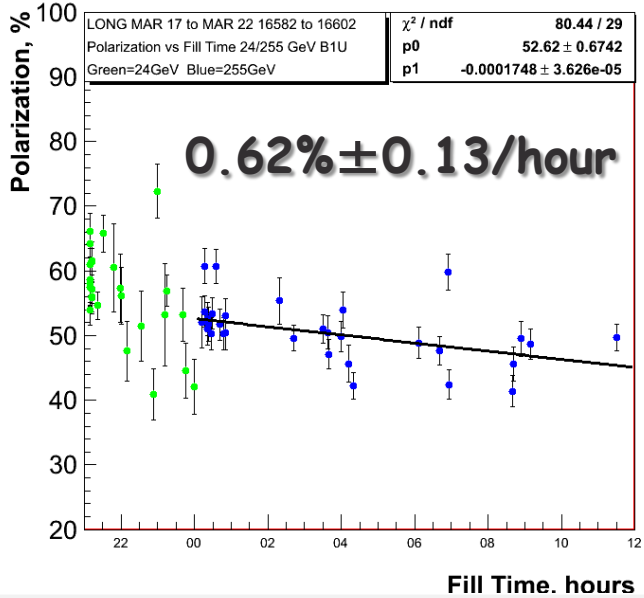
255 GEV RESULTS TRANSVERSE FILLS



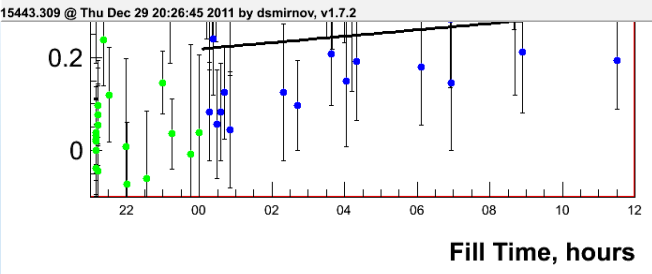
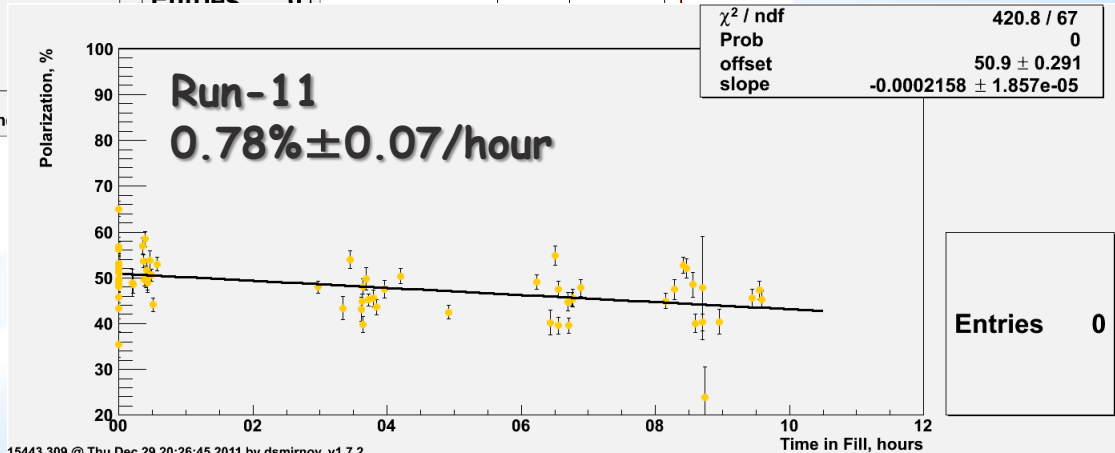
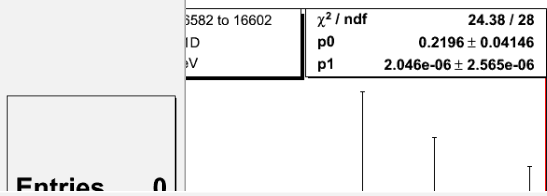
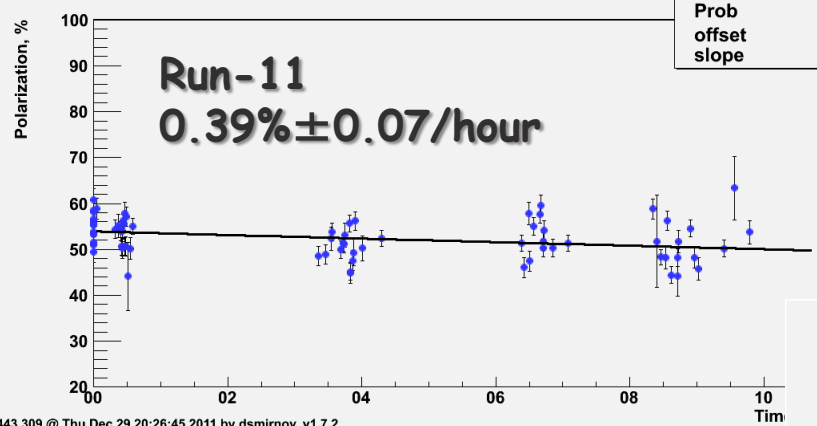
Polarisation lifetime in yellow very similar to longitudinal 255 GeV fills

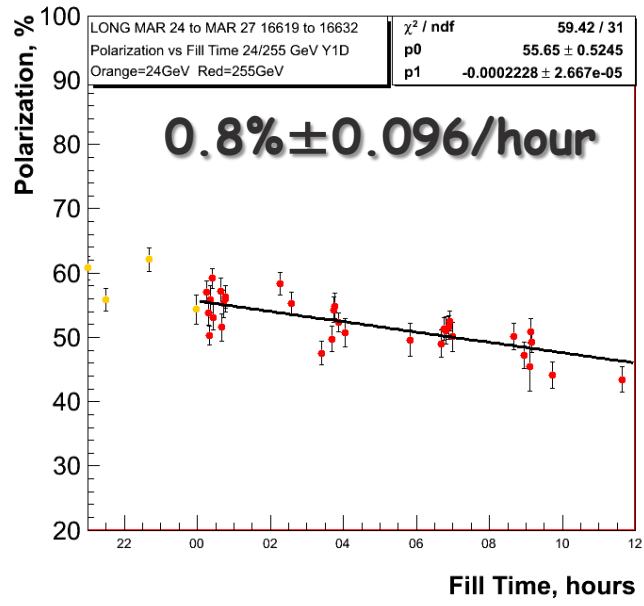
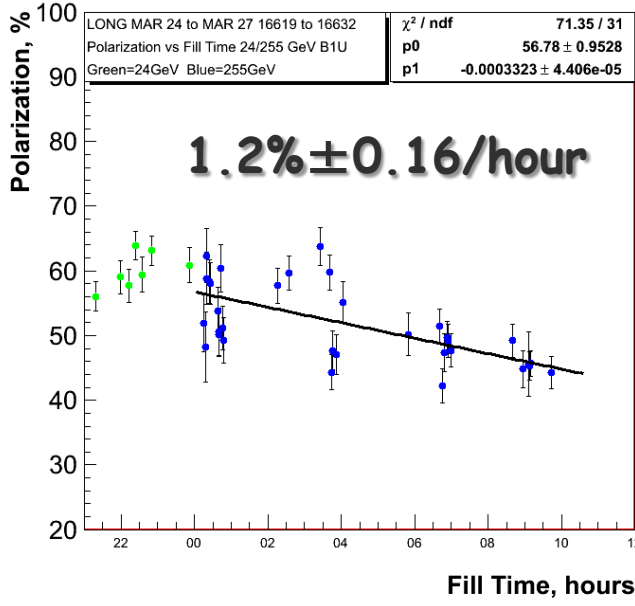




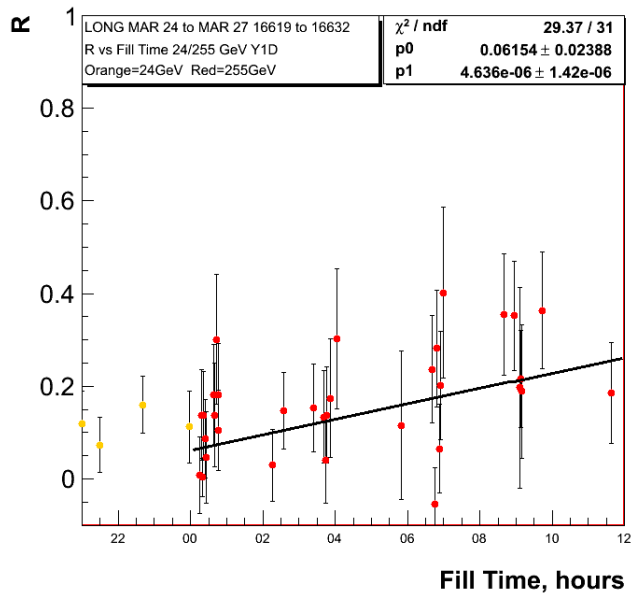
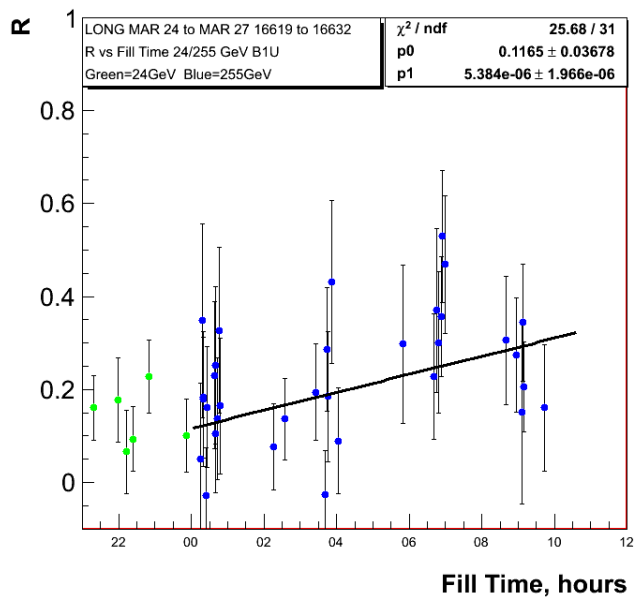


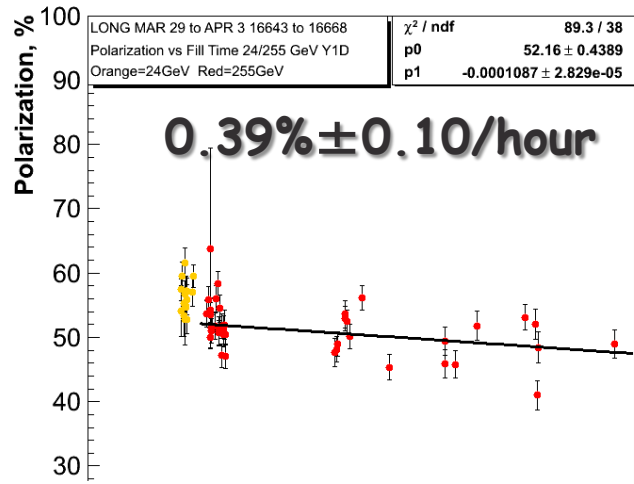
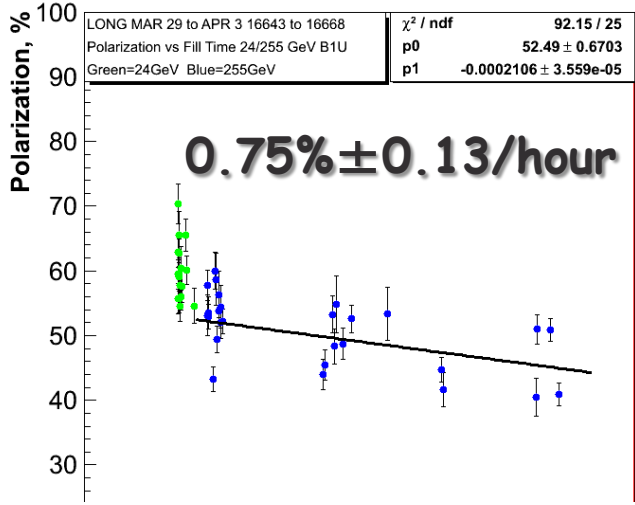
Polarisation lifetime very similar run-11 and run-12 so 255 GeV did not do the trick



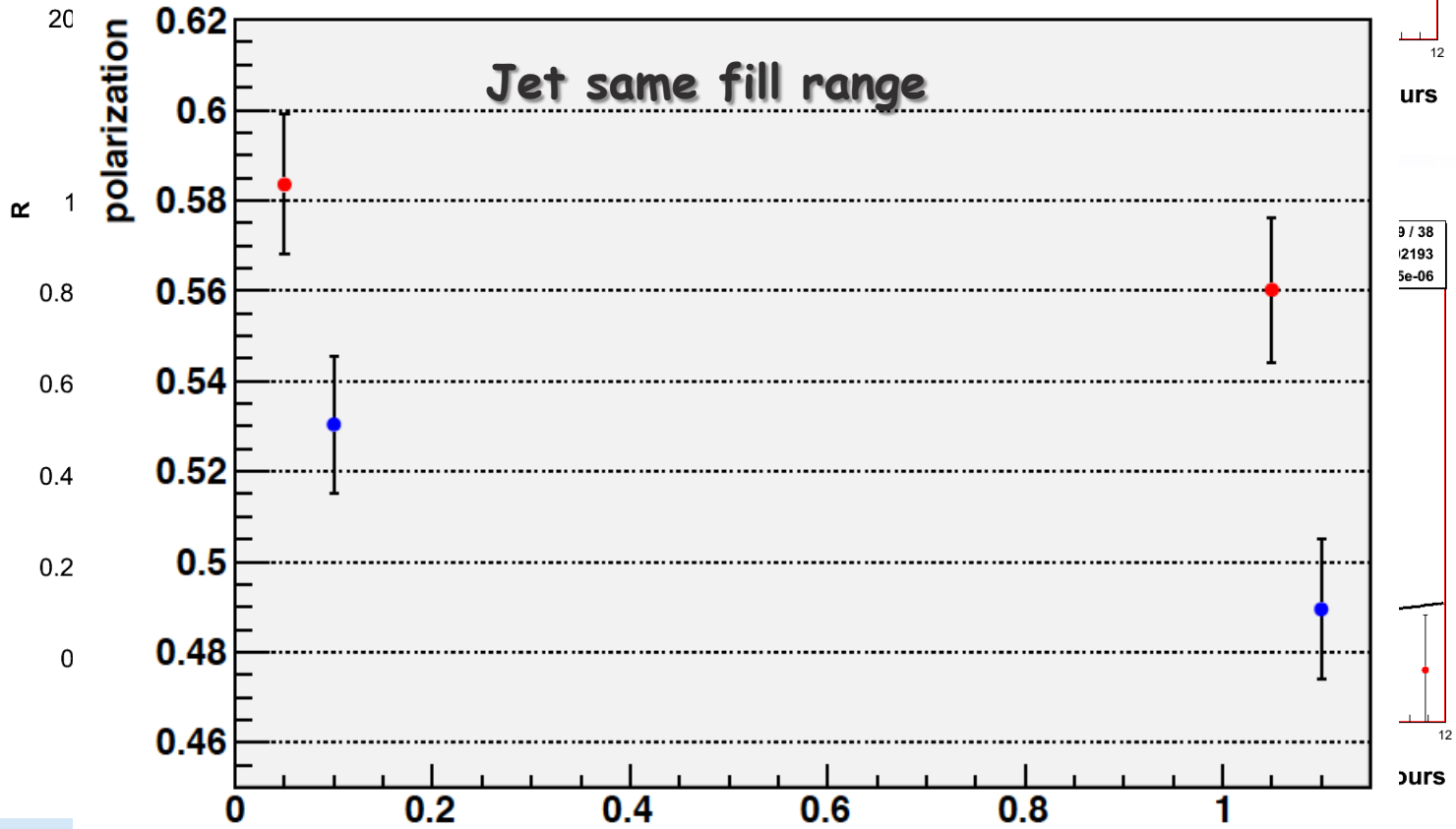


Polarisation Lifetime for low Emittance fills

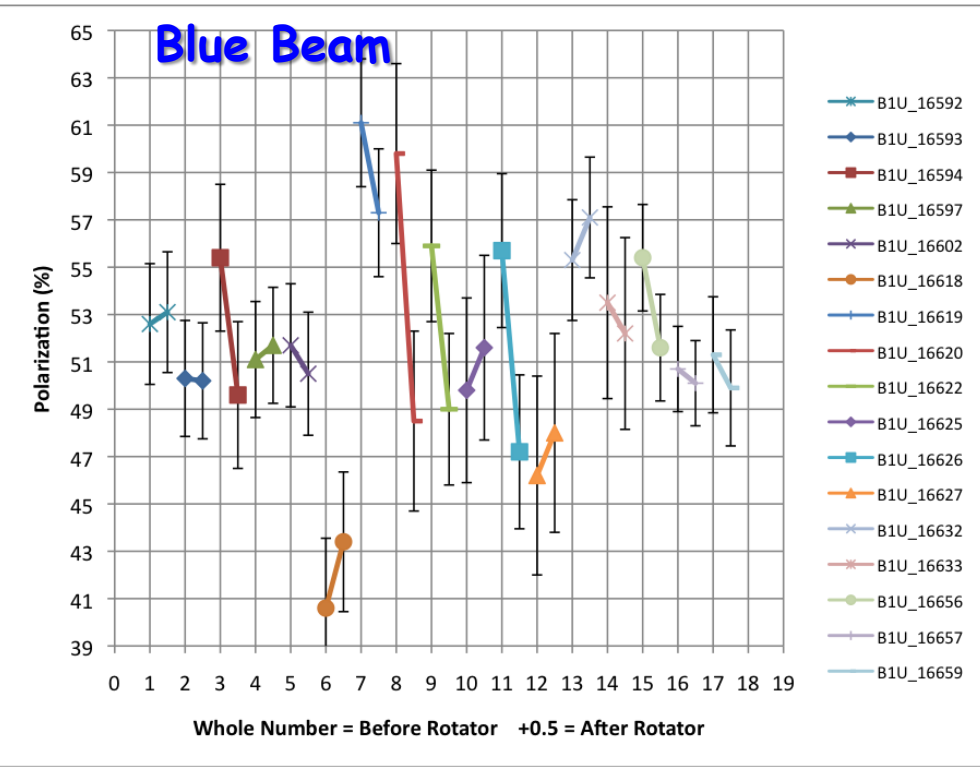




**Polarisation
Lifetime since
last week**

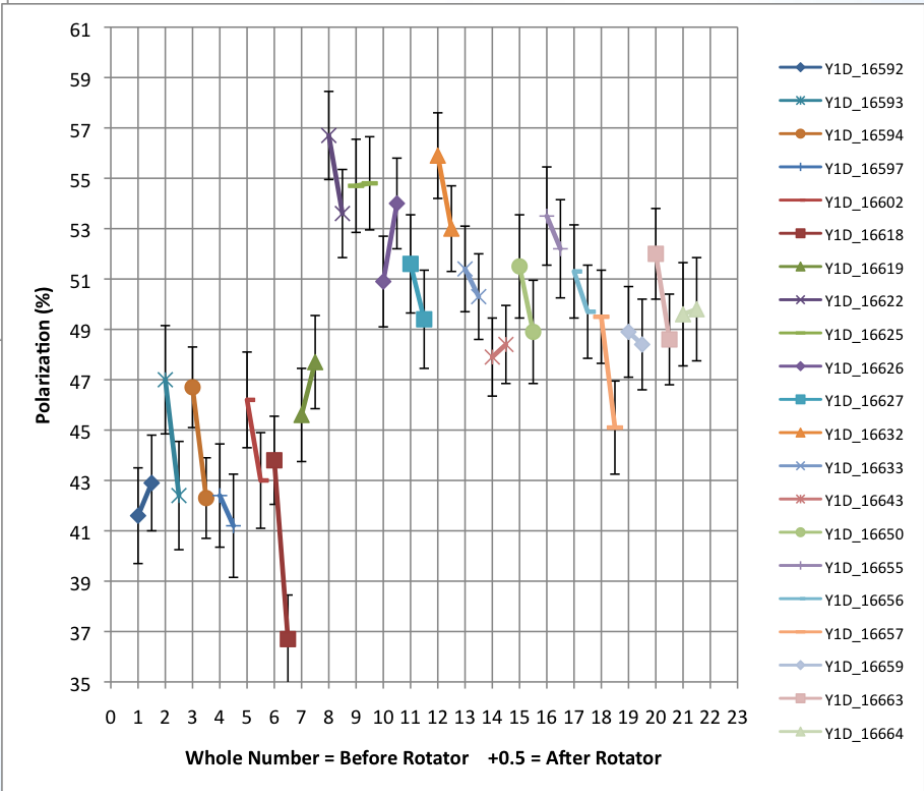


POLARISATION LOSS THROUGH ROTATOR RAMP



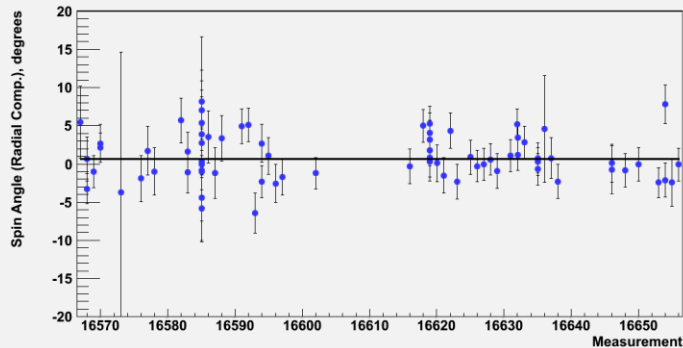
Shown are the polarisation measurements before and after the rotator ramp at 255 GeV

Yellow Beam



RADIAL SPIN ANGLE MEASURED BY PC

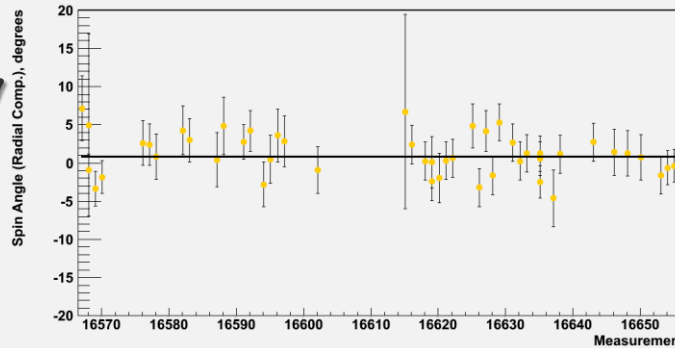
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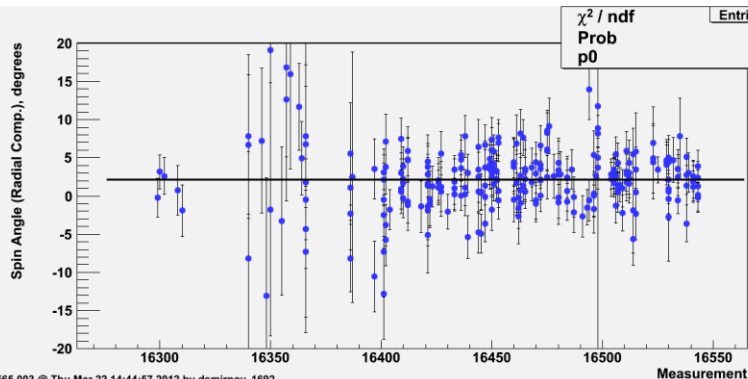
24 GeV

χ^2 / ndf 227.7 / 74
 Prob 1.496e-17
 p0 0.6149 ± 0.2955

16656.309: Taken Sat Mar 31 19:28:52 2012, Analyzed Sat Mar 31 20:45:12 2012, Version 1695, dsmirnov



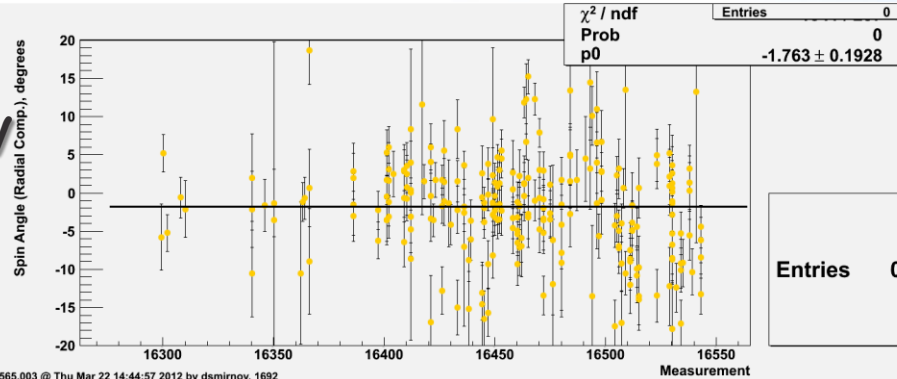
χ^2 / ndf 41.17 / 47
 Prob 0.7118
 p0 0.8112 ± 0.3867



100 GeV

χ^2 / ndf 0.03781
 Prob 2.14 ± 0.1736
 Entries 0

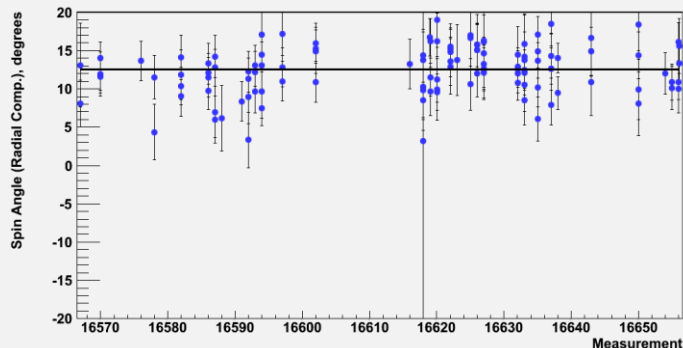
Entries 0



Entries 0

χ^2 / ndf 0
 Prob -1.763 ± 0.1928
 Entries 0

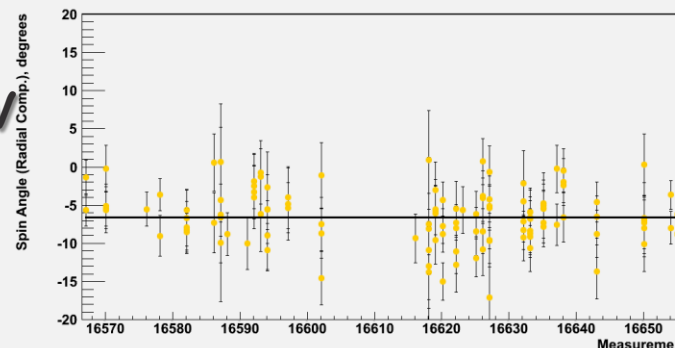
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255 GeV

χ^2 / ndf 122.6 / 118
 Prob 0.3664
 p0 12.51 ± 0.2675

16656.309: Taken Sat Mar 31 19:28:52 2012, Analyzed Sat Mar 31 20:45:12 2012, Version 1695, dsmirnov



χ^2 / ndf 135 / 125
 Prob 0.2552
 p0 -6.583 ± 0.2619

- Basically no targets left in blue and yellow
 - If you want these info as presented we need to install new targets in both beams
 - Impact on APEX program