p-Carbon RHIC Polarimeters Status Report

Dmitri Smirnov

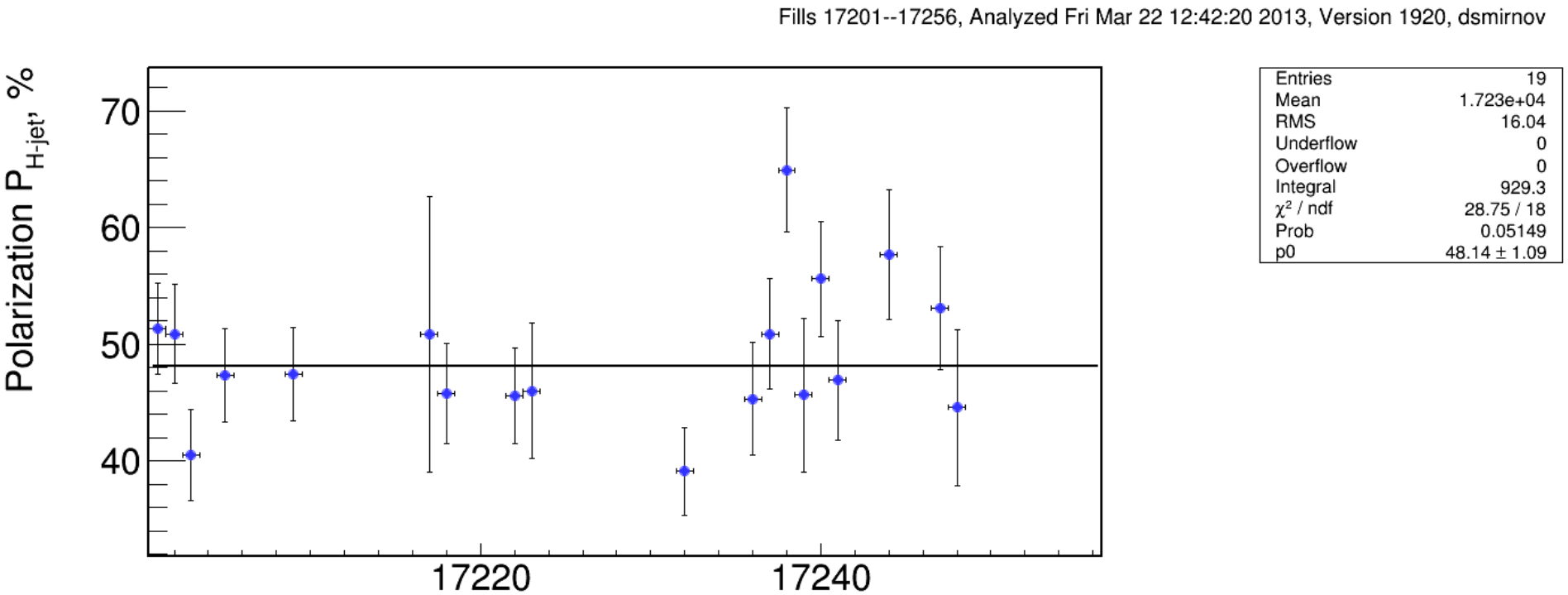
for the CNI polarimetry group

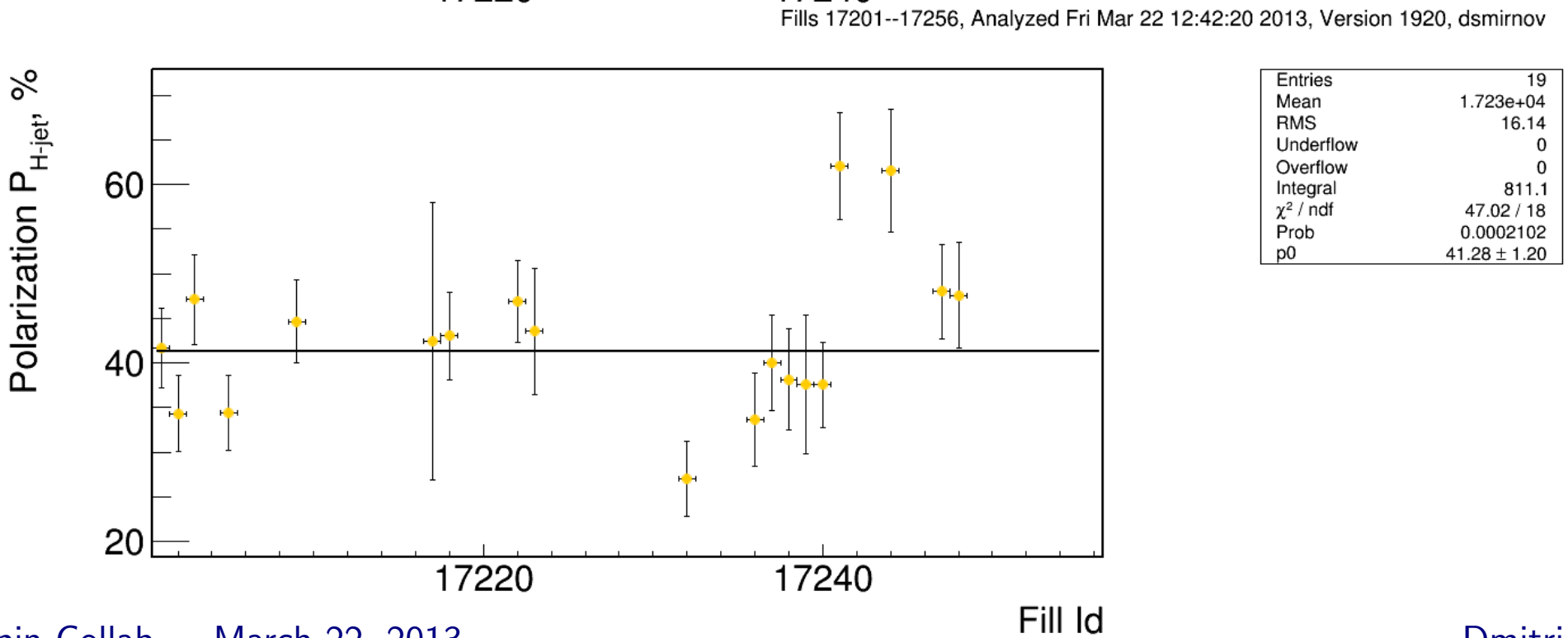
March 22, 2013

p-Carbon Polarimeters Status

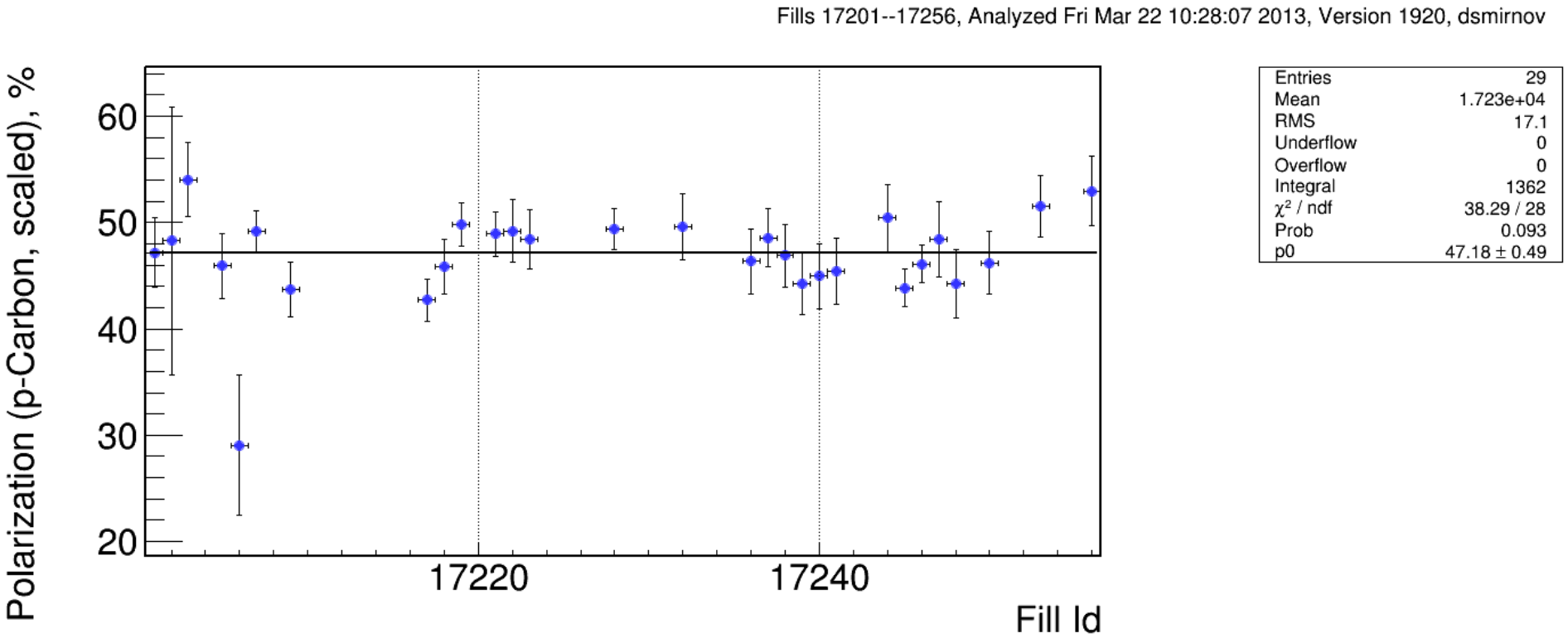
- **p-Carbon**
  - Replaced all targets on Wednesday, March 20
  - Only one target of 48 did not survive installation
  - Stable running with minimal amount of noise
    — Monitoring empty bunches
  - Some unstatistical bunch to bunch fluctuations in Blue
    — Investigating
- **H-Jet**
  - Investigating outliers, fill-to-fill fluctuations
  - Primary suspect is difference in number of "+" and "-" bunches

H-Jet Polarimeter

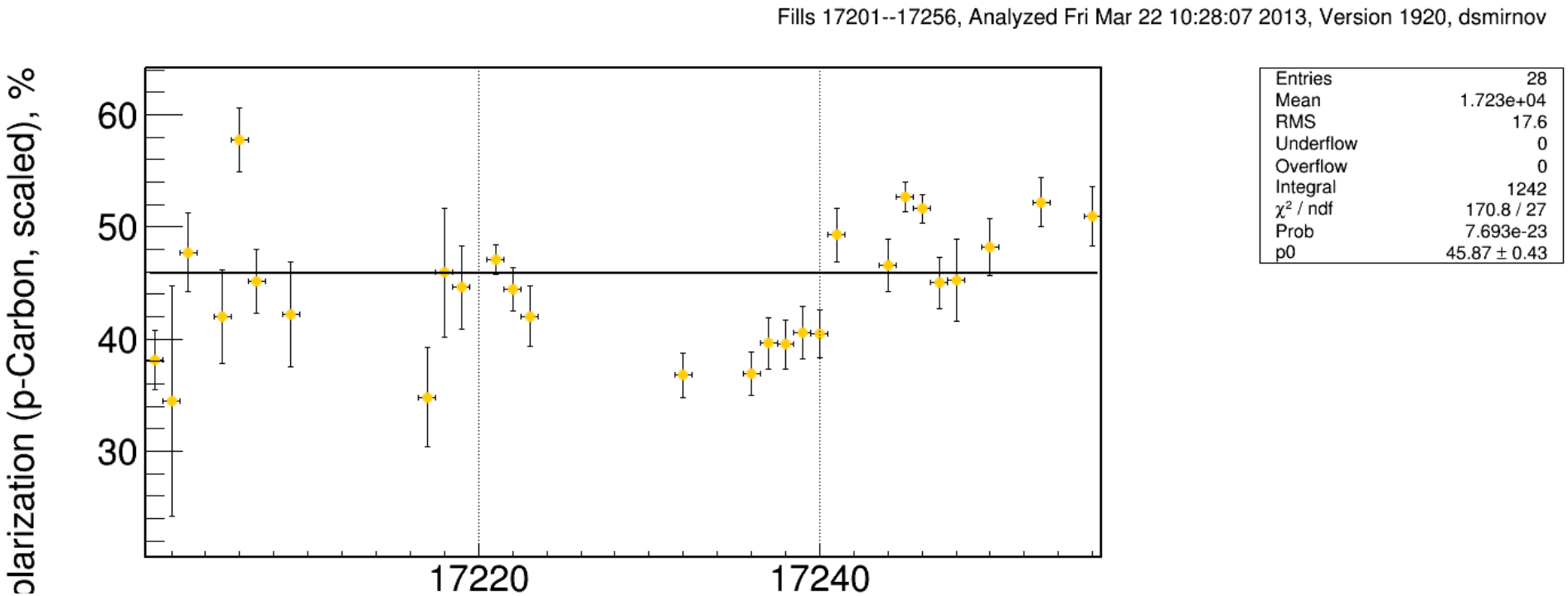


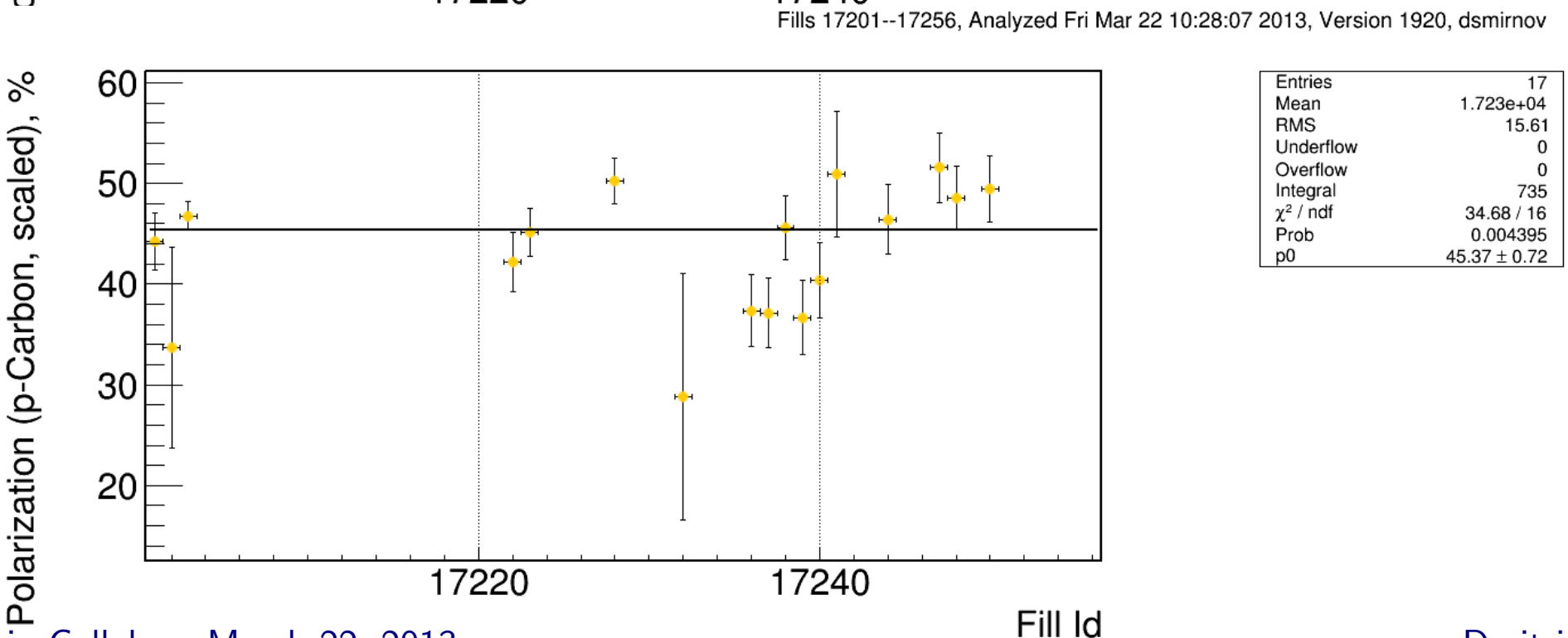


B1 Polarimeter

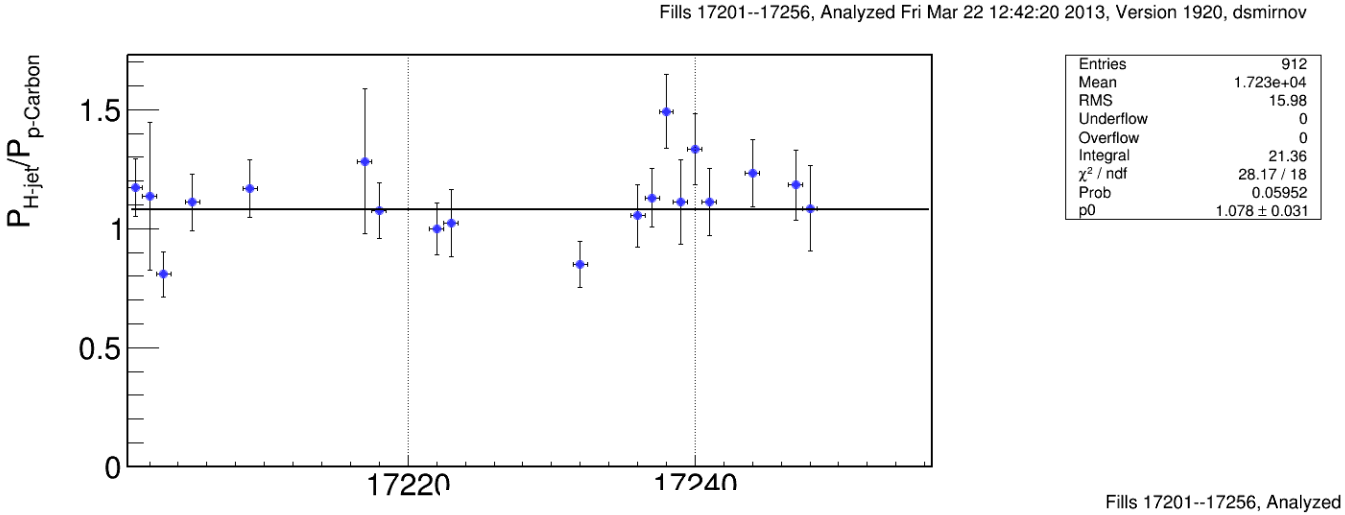


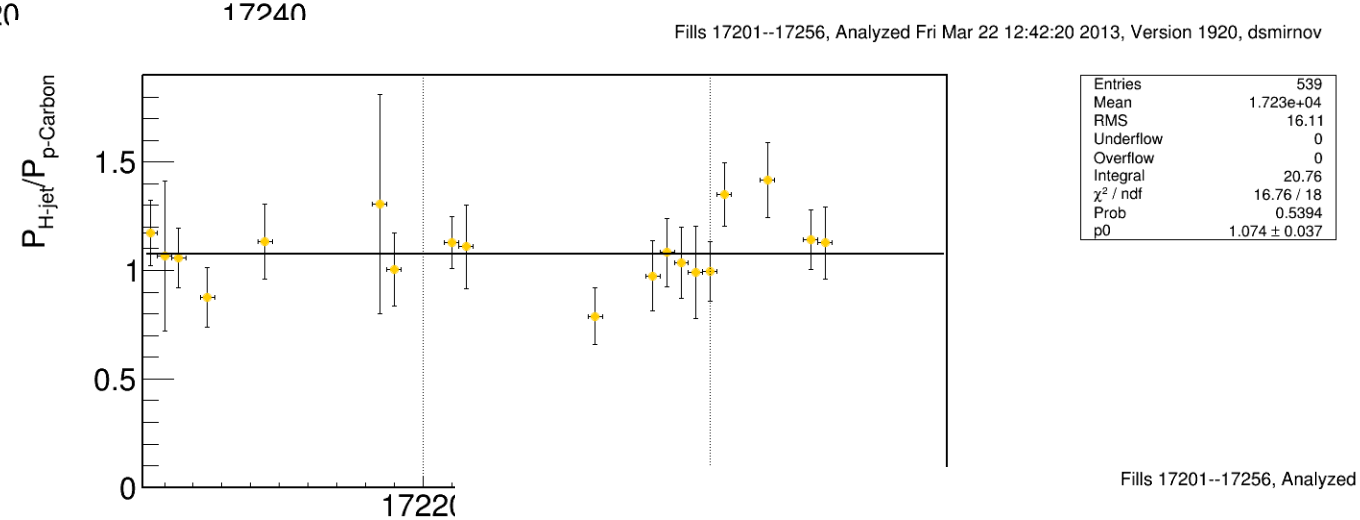
Y1 and Y2 Polarimeters

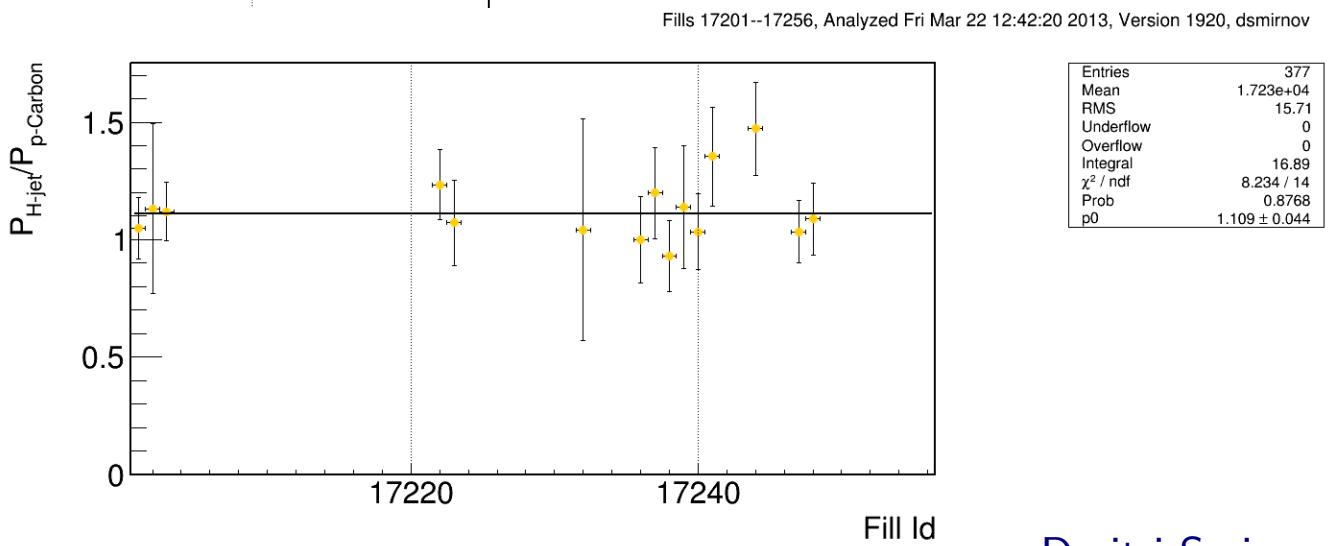




H-jet/p-Carbon Normalization



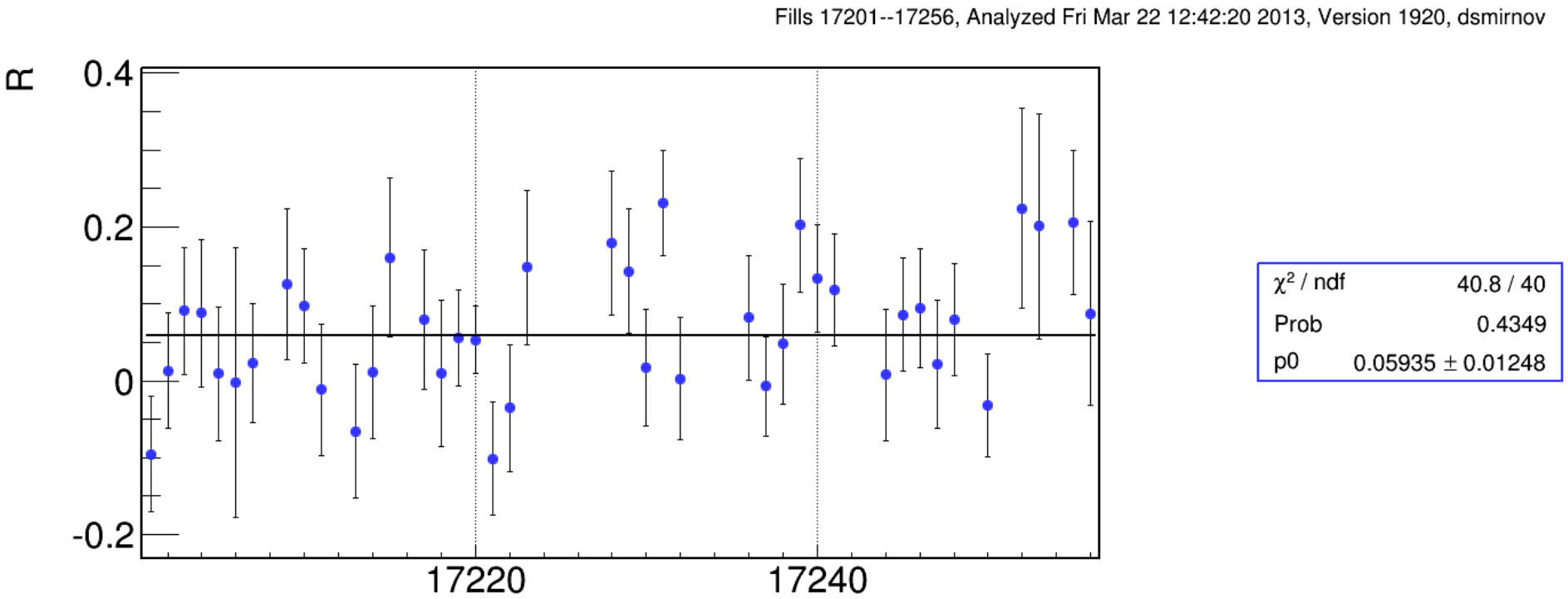


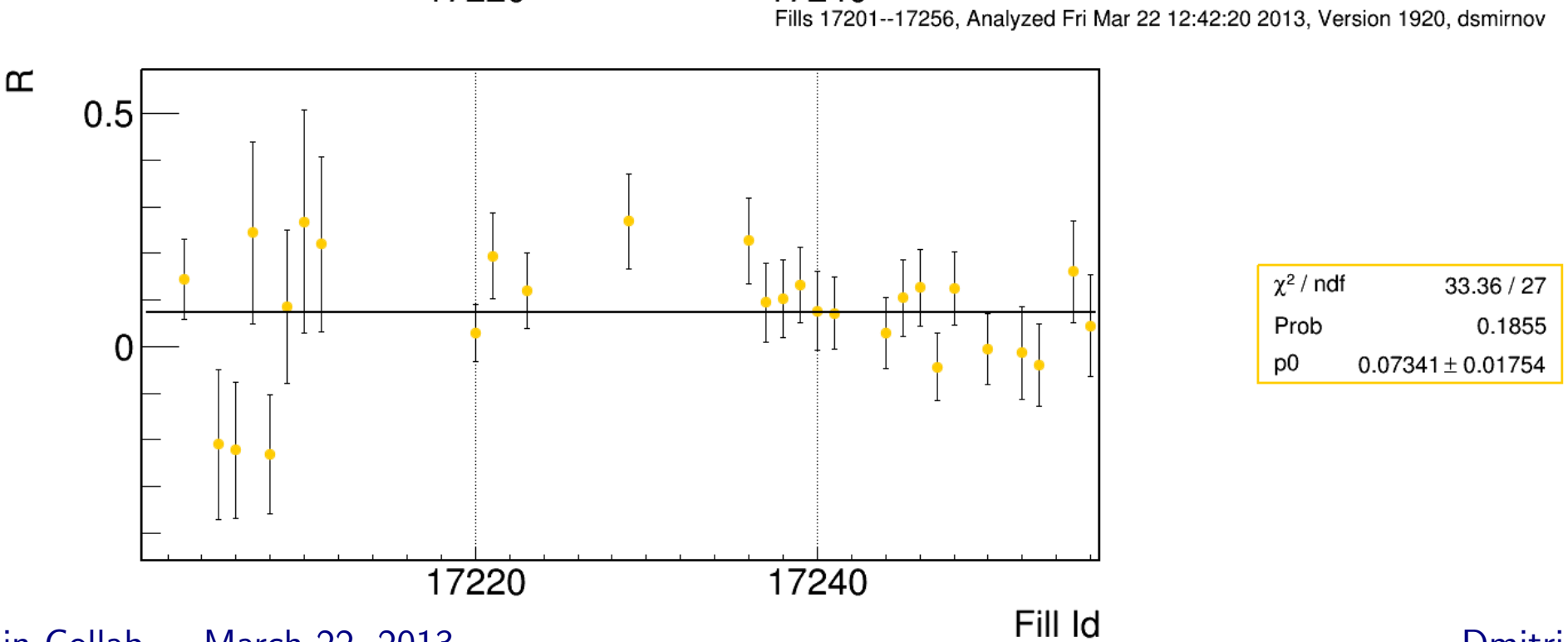


H-jet/p-Carbon Normalization

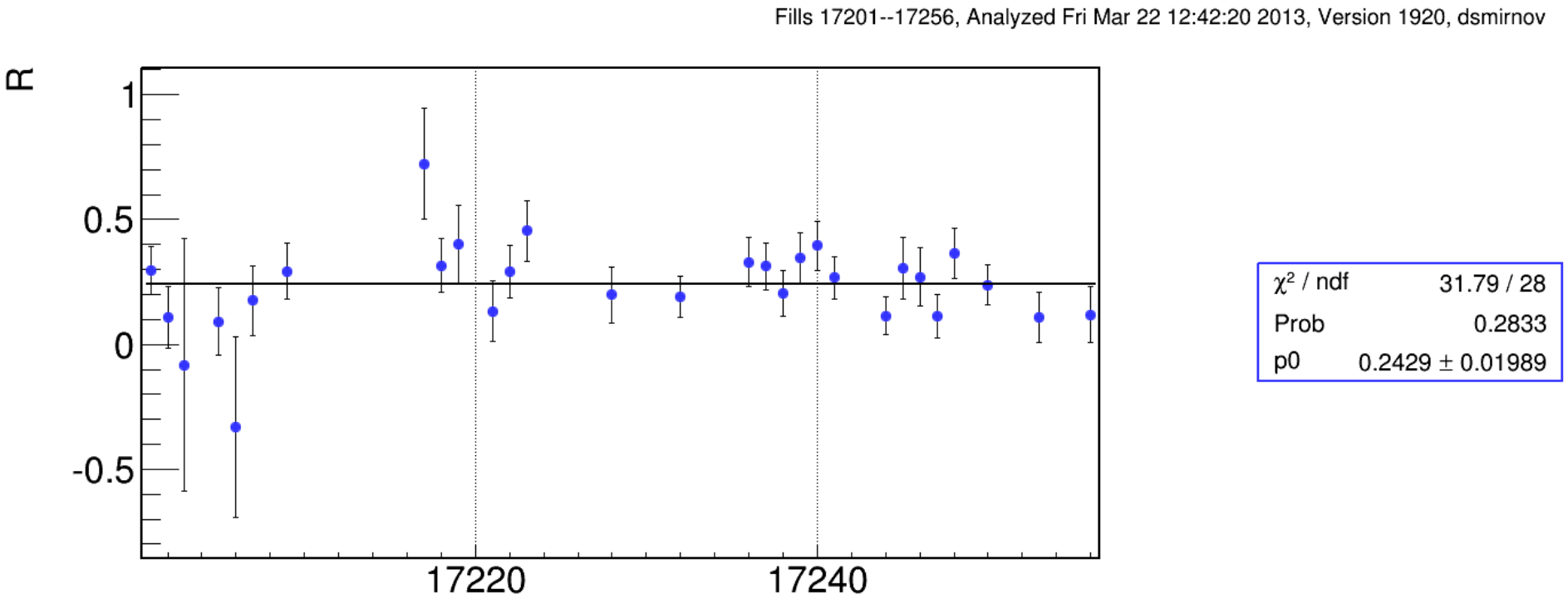
	Run 13, 255 GeV
B1U	1.08 ± 0.03
B2D	1.01 ± 0.10
Y2U	1.11 ± 0.04
Y1D	1.07 ± 0.04

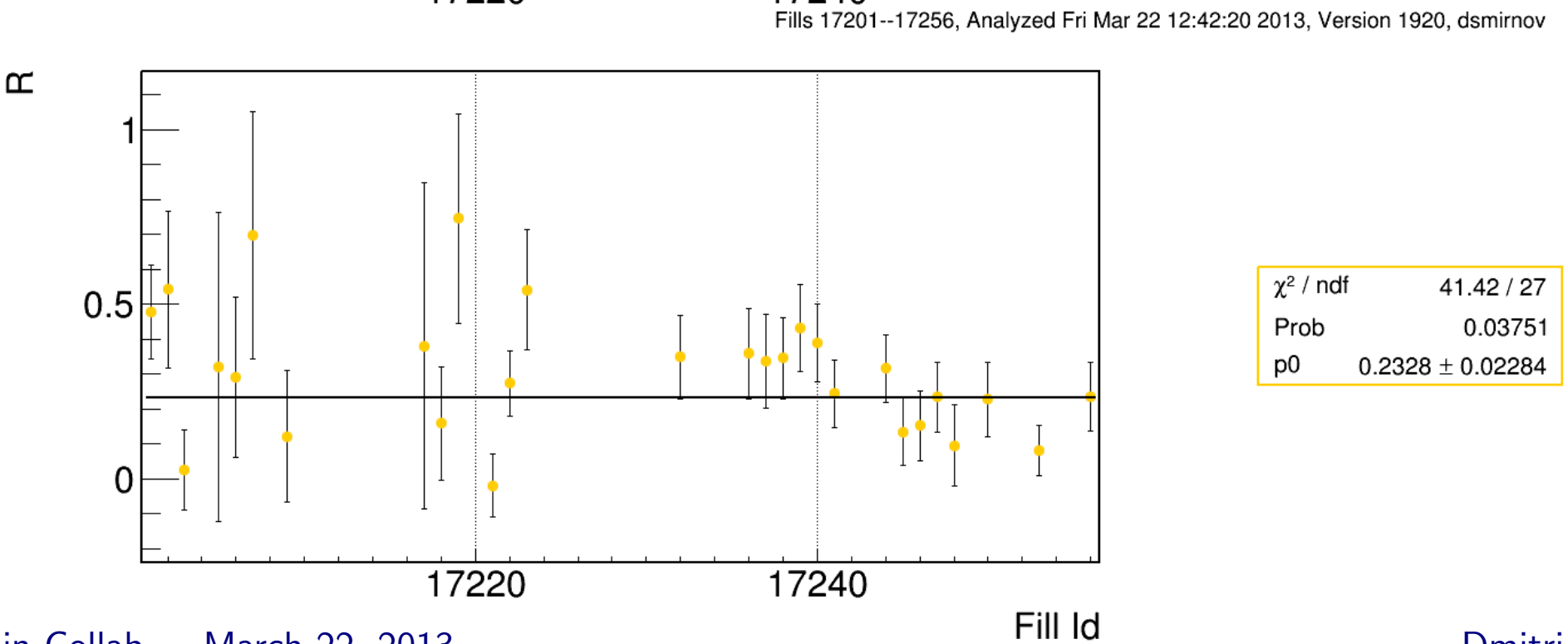
Profile Polarization R, 24 GeV



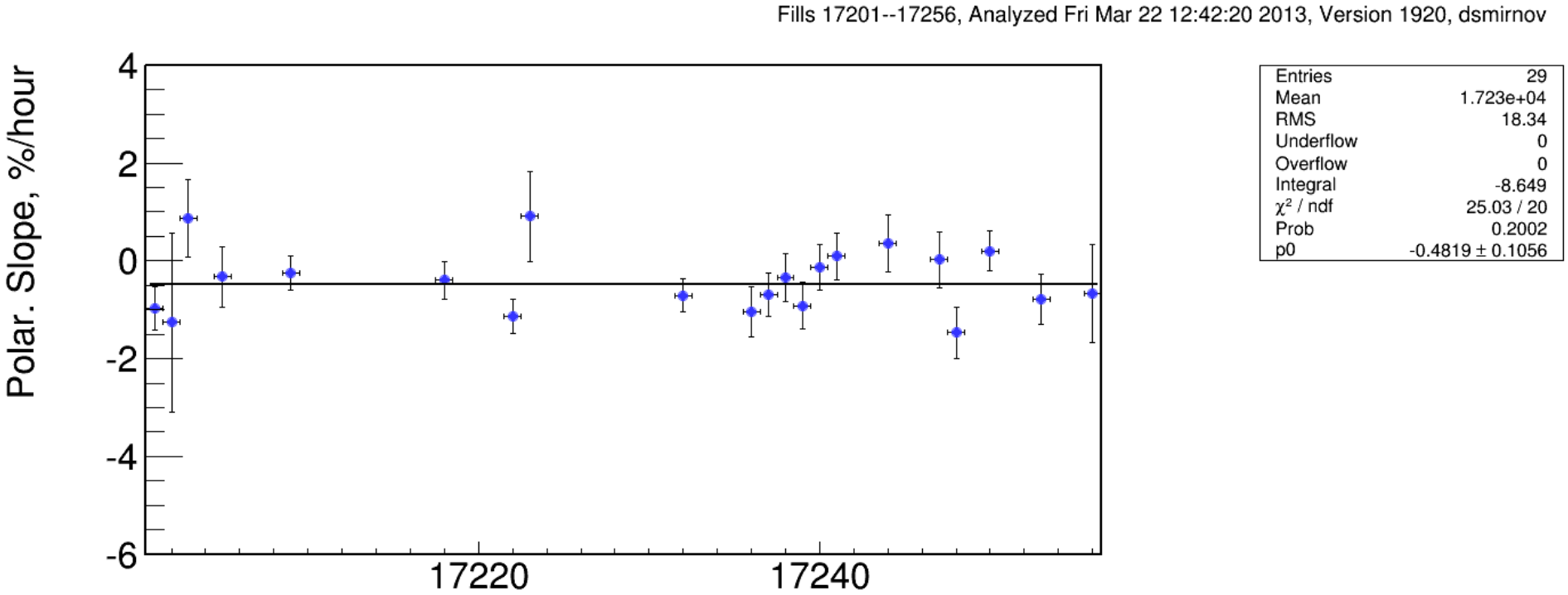


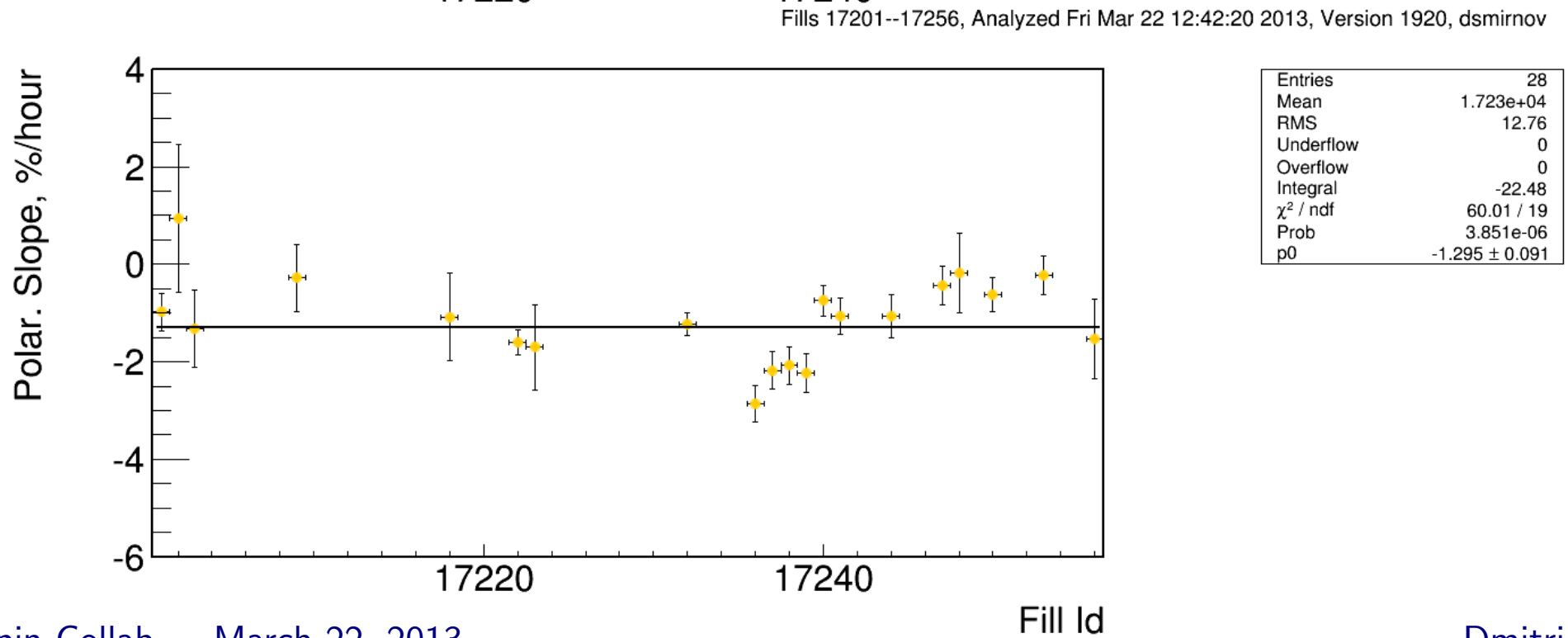
Profile Polarization R, 255 GeV





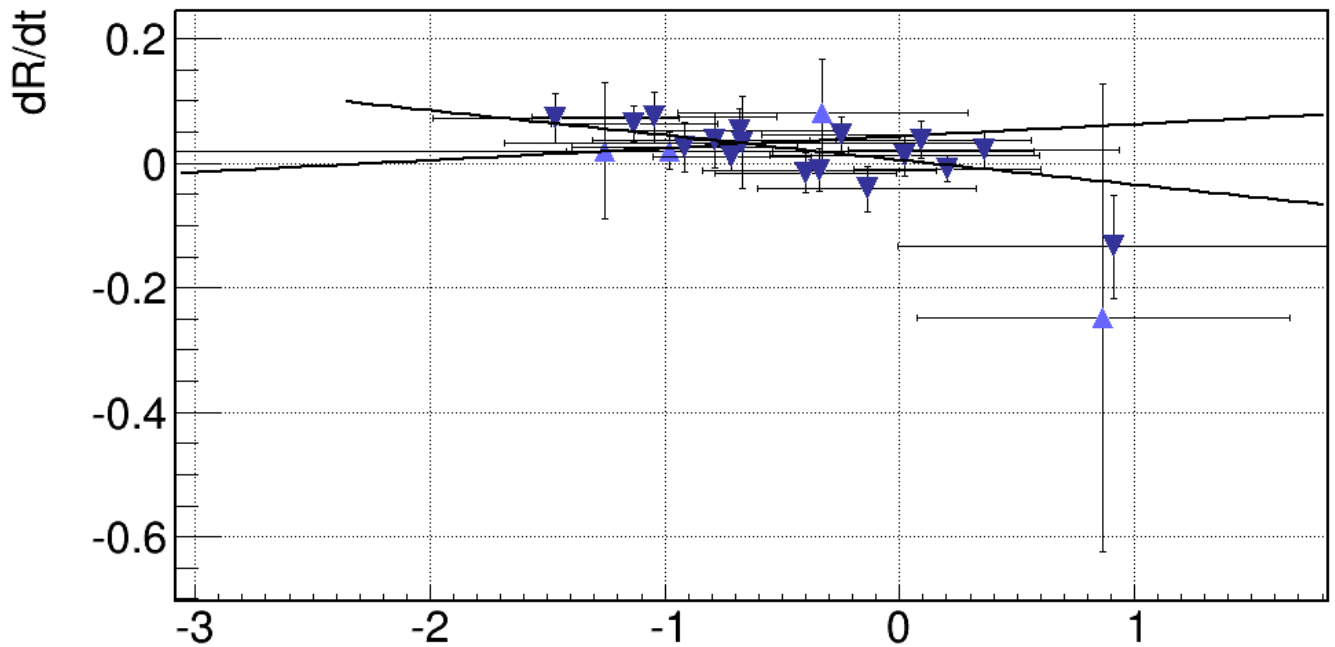
Polarization Decay, dP/dt





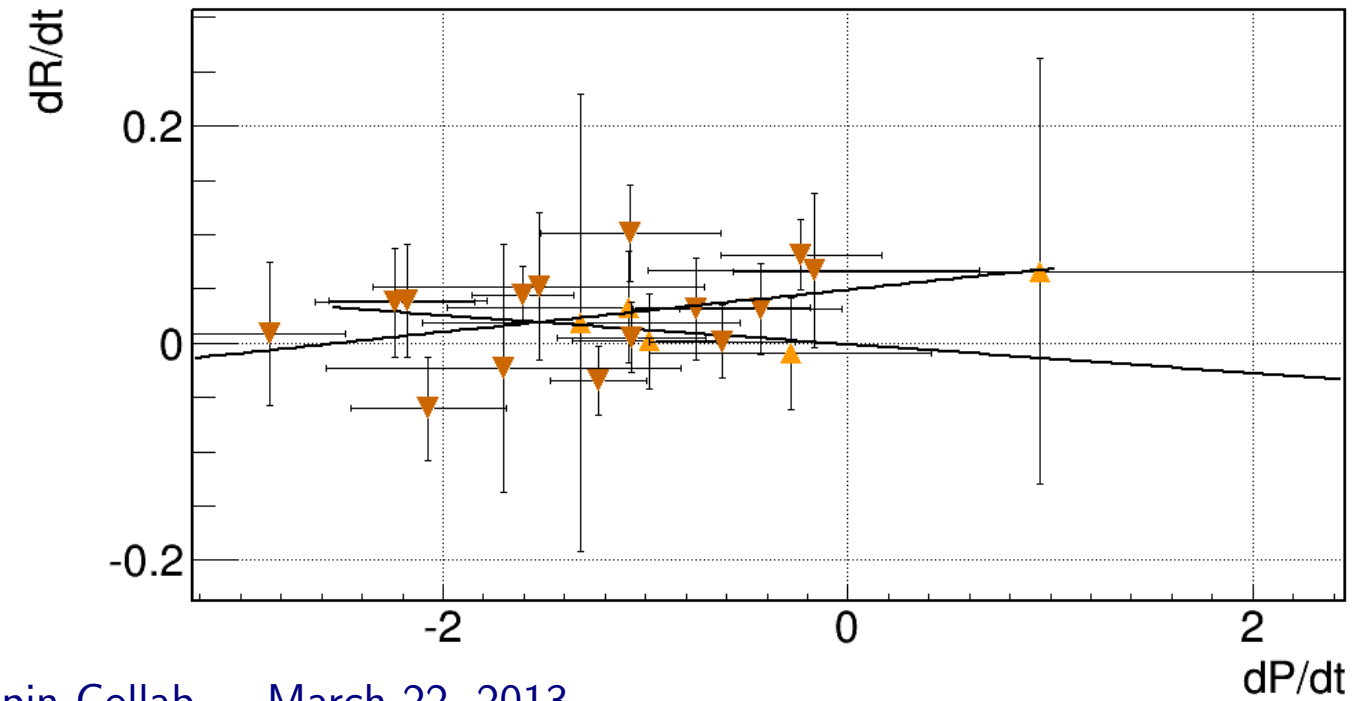
Polarization Decay, dP/dt vs Profile dR/dt

Fills 17201--17256, Analyzed Fri Mar 22 12:42:20 2013, Version 1920, dsmirnov



χ^2 / ndf	0.9666 / 2
Prob	0.6167
p0	0.0425 ± 0.1035
p1	0.01935 ± 0.1085
χ^2 / ndf	11.38 / 15
Prob	0.7253
p0	0.004611 ± 0.009893
p1	-0.03966 ± 0.01526

Fills 17201--17256, Analyzed Fri Mar 22 12:42:20 2013, Version 1920, dsmirnov



χ^2 / ndf	0.4257 / 3
Prob	0.9349
p0	-0.00144 ± 0.05761
p1	-0.01331 ± 0.06535
χ^2 / ndf	13.58 / 13
Prob	0.4038
p0	0.04862 ± 0.02181
p1	0.01948 ± 0.0161