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Calibration of FDIRC Mirror: preliminary study

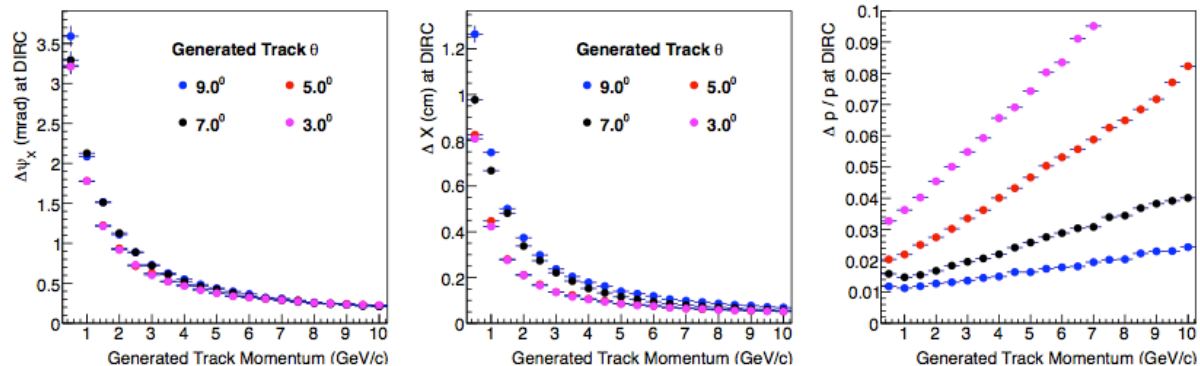
Sep 4 2015

Calibration: log likelihood

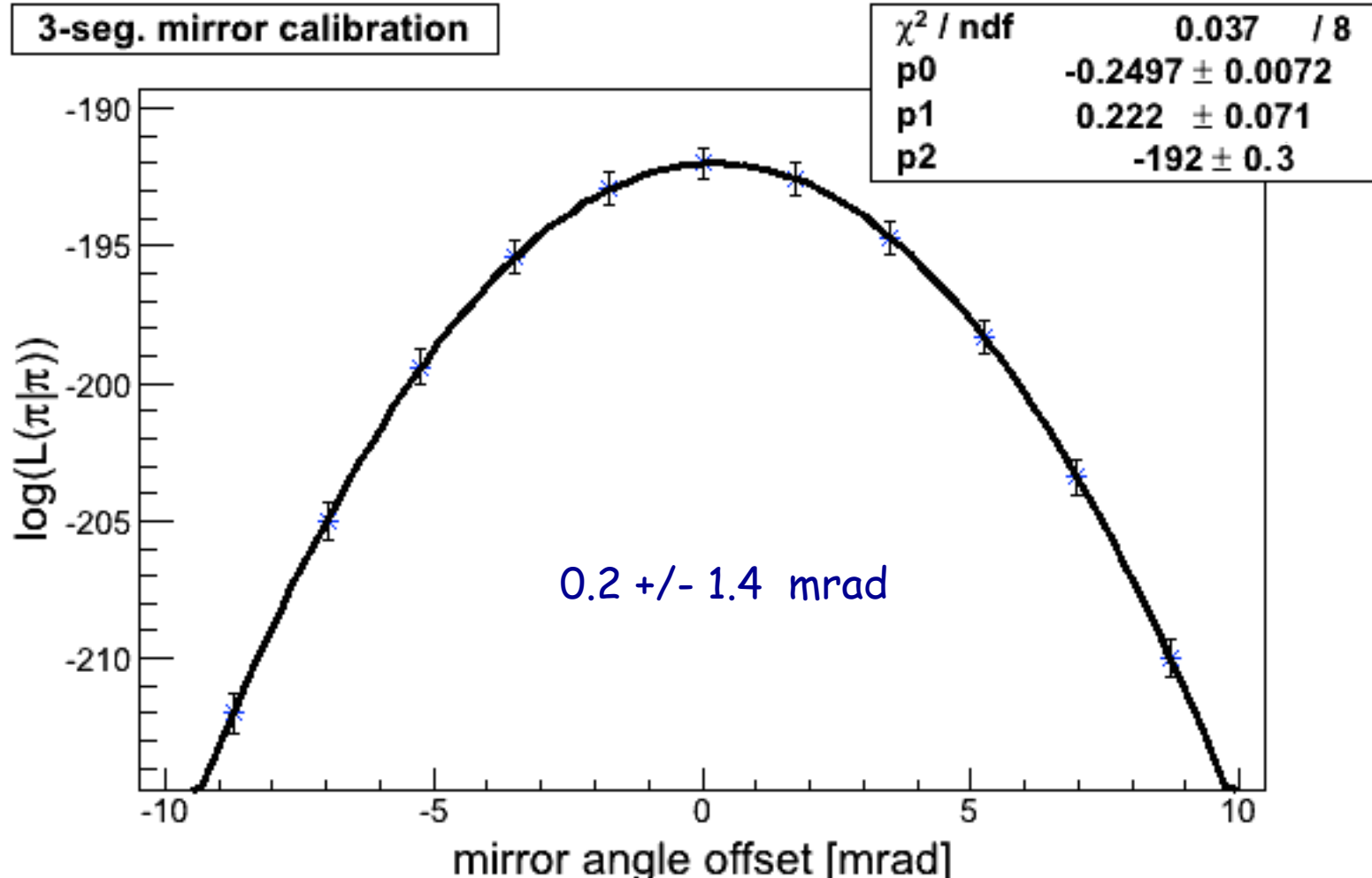
method

- Vary the mirror angle by a certain offset
- Calculate likelihood (simulated data and PDF) vs offset
- Calibration based on estimate of point of maximum

- Considered different momentum and angles of the tracks
- Tracker resolution has been included in the analysis



Calibration: log likelihood

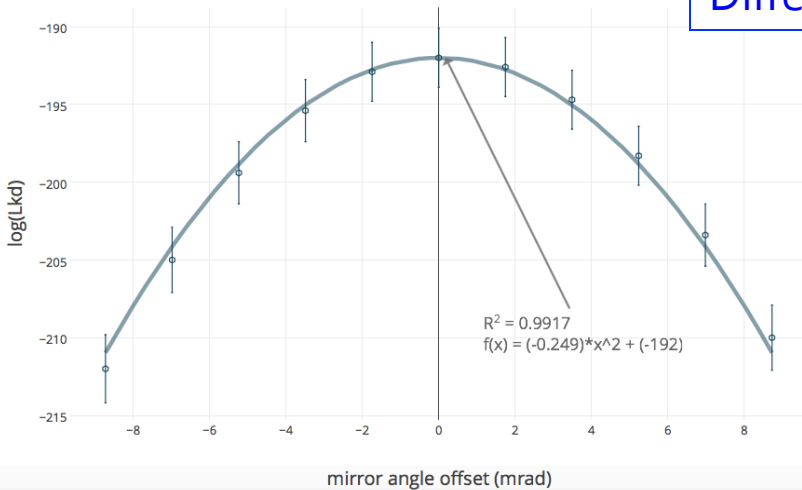


calibration: 1000 pions E= 4GeV, theta=3° phi=0°

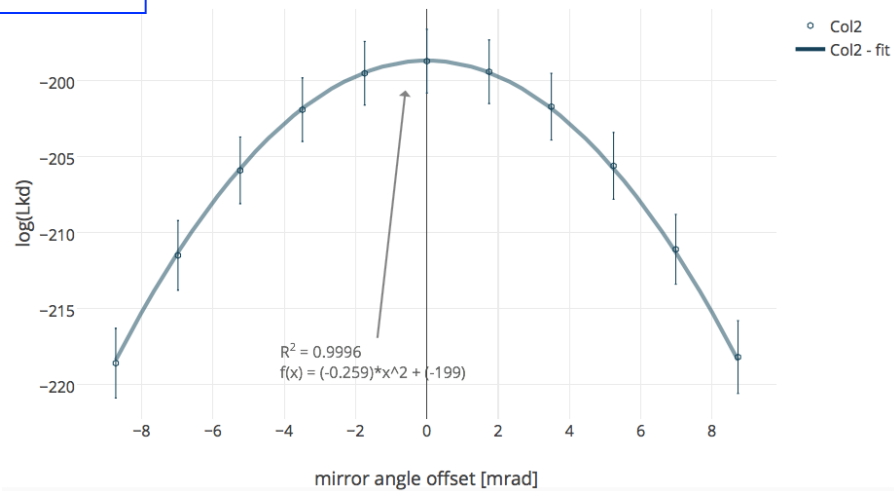
Calibration: log likelihood

Different kinematics

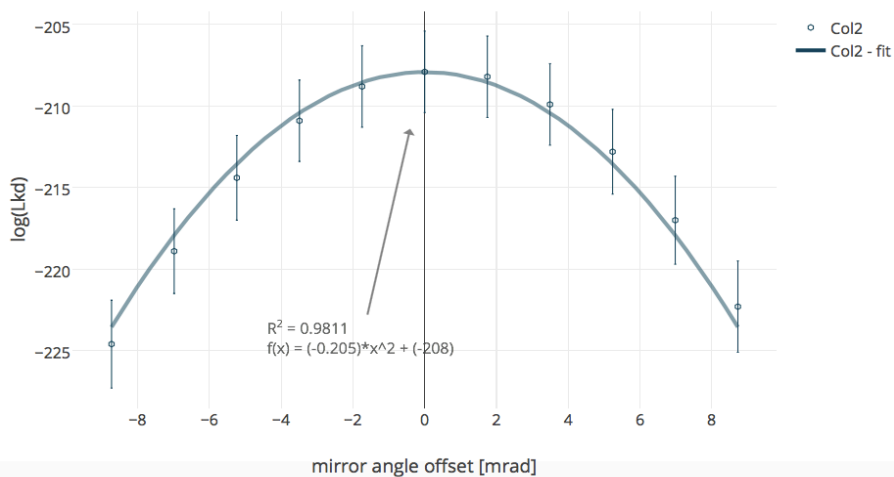
theta=0, phi=40, E=4 GeV (#pions = 100)



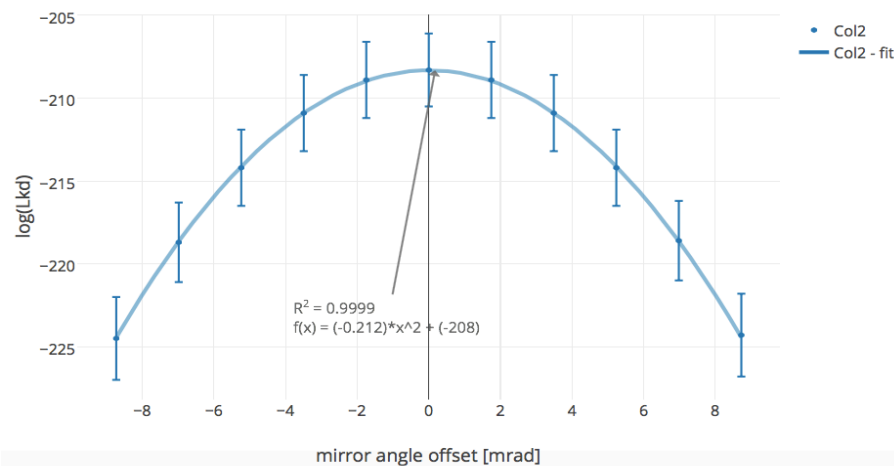
theta=3, phi=0, E=4 GeV (#pions = 100)



theta=3, phi=40, E=4 GeV (#pions=100)



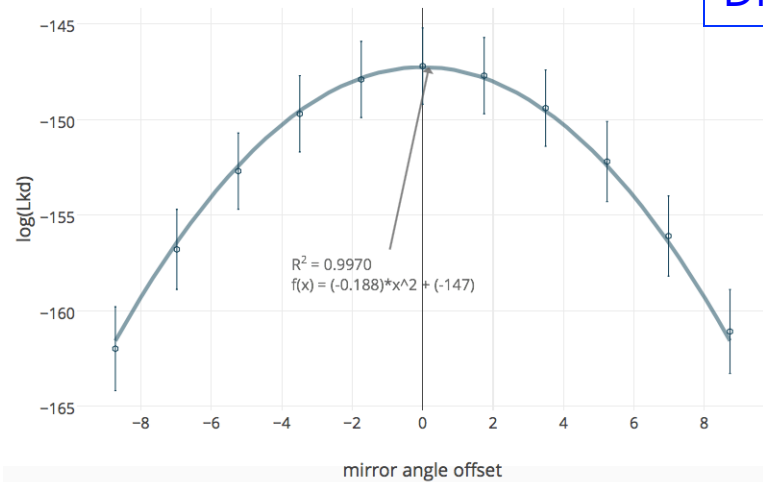
theta=3, phi=90, E=4 GeV (#pions = 100)



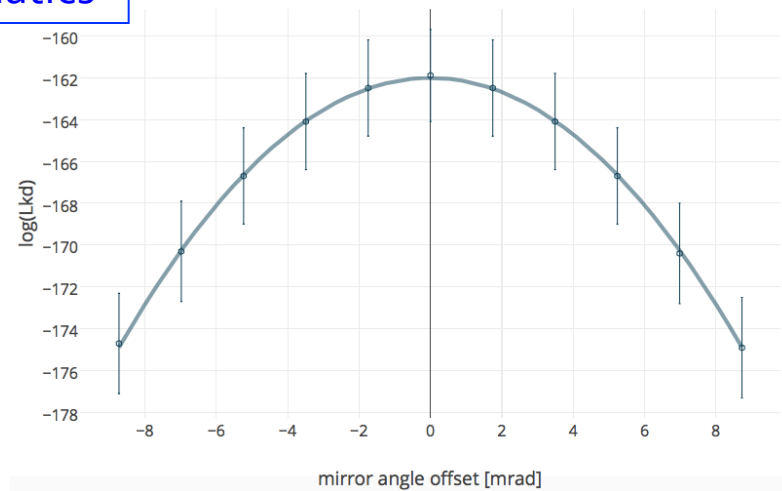
Calibration: log likelihood

theta=5, phi=0, E=6 GeV (#pions = 100)

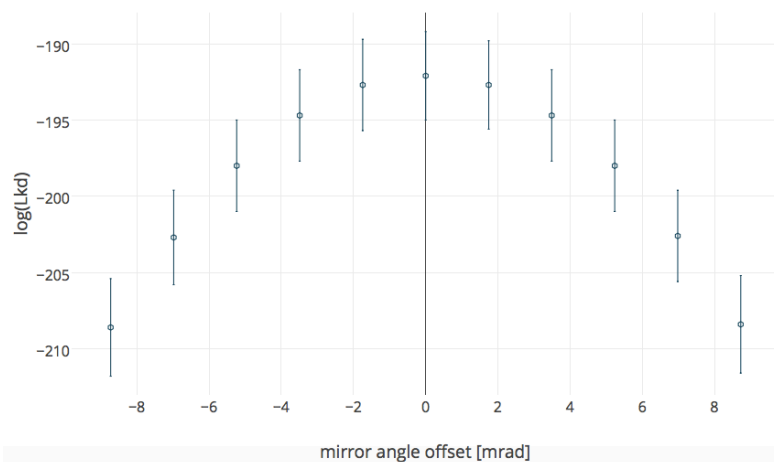
Different kinematics



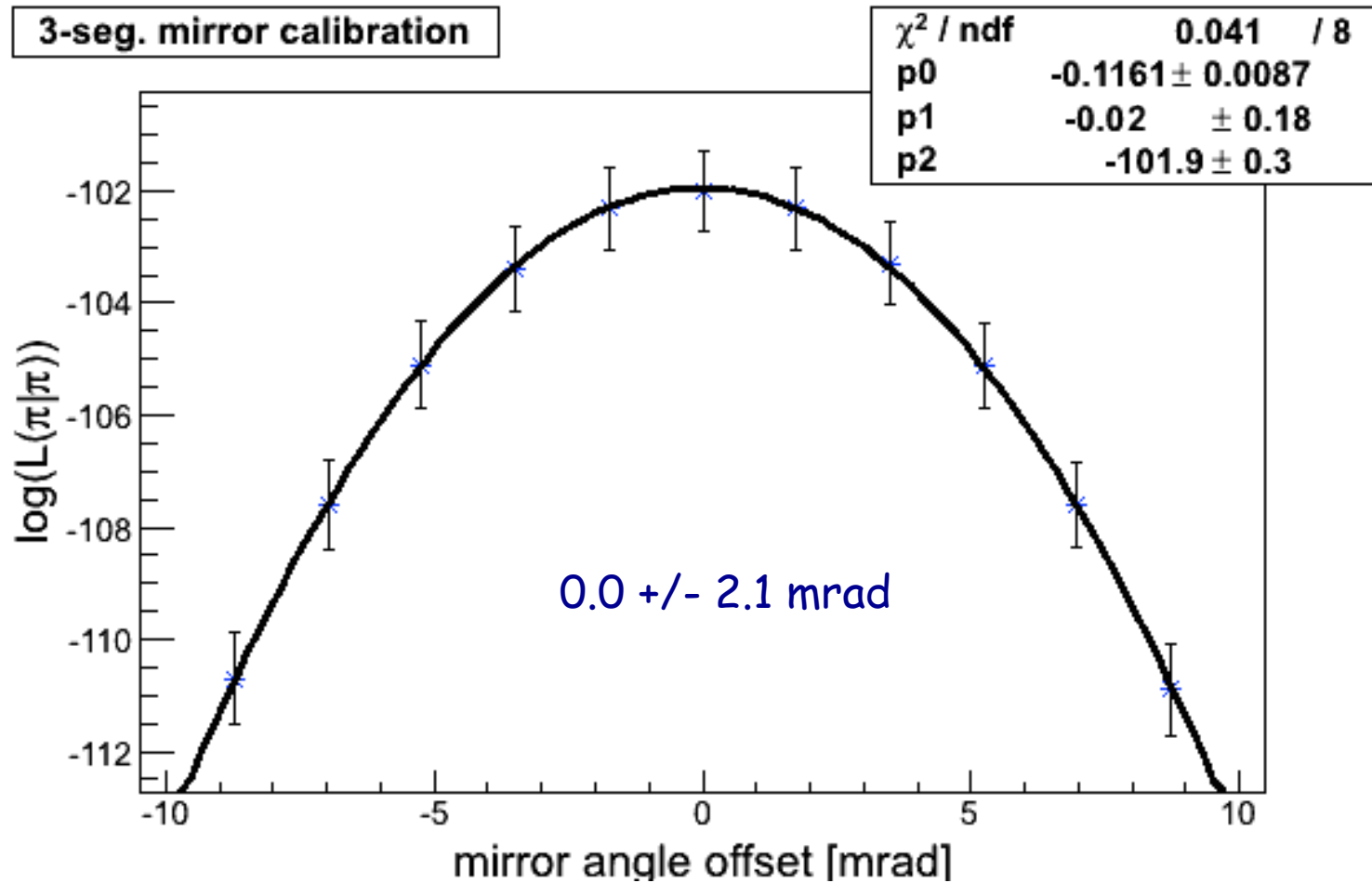
theta=5, phi=40, E=6 GeV (#pions = 100)



theta=5, phi=90, E=6 GeV



Calibration: log likelihood



calibration: 1000 pions E= 4GeV, theta=7° phi=0°