

Milap Patel

Student Introduction

History

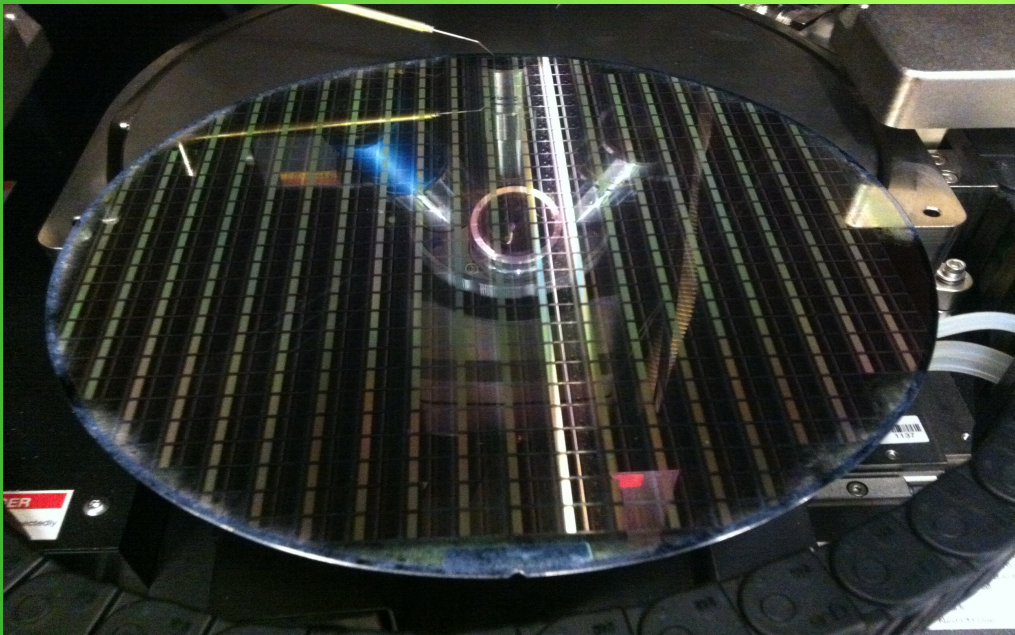
- Born in India
 - Moved to US when ~8 yrs old
 - Settled in Florida
- Undergrad at University of Florida
 - BS in Physics 2011
- Iowa State University
 - Started 2011

PHENIX

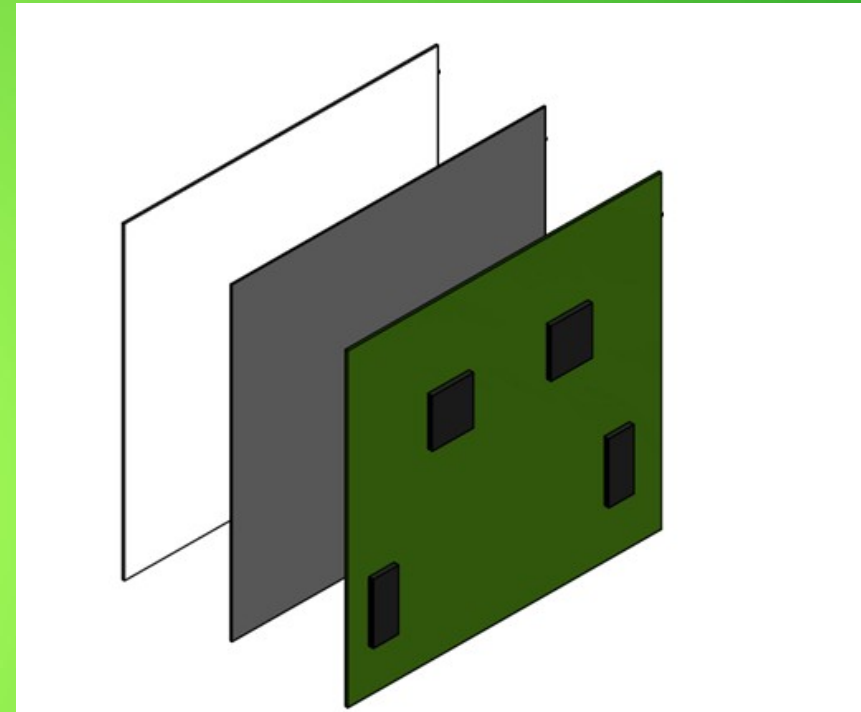
- Became student of John Lajoie in summer 2012
- Mostly all my work has been with the MPC-EX
 - SVX4 testing
 - Test beams
 - Simulation work
- Thesis will be using p+p data taken this run
 - Prompt Photon Asymmetry using MPC-EX detector

SVX4 Testing

Tested the Digital and Analog current draw of each SVX4.



SVX4 wafer



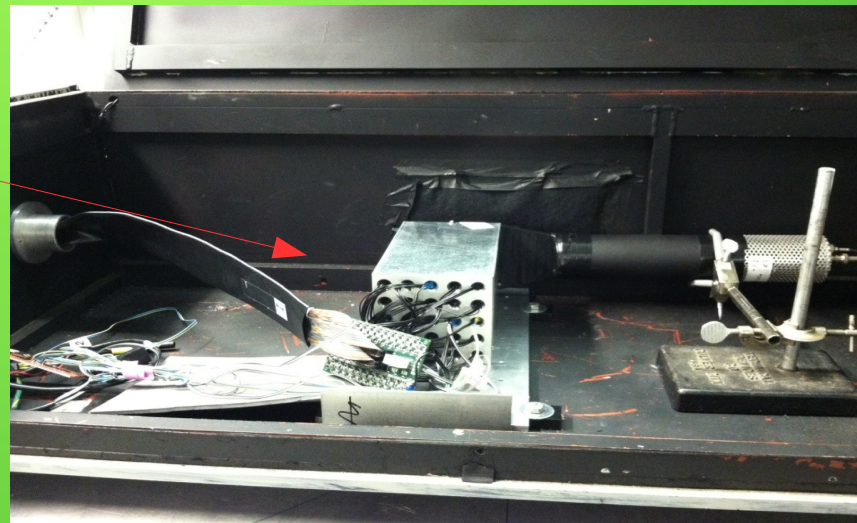
Dual SVX-4 Readout Card

FermiLab Test Beam

- In September 2013
- Put 17mm and 8mm thick tungsten in front of MPC crystals to simulate the MPCEX
- Goal:
 - How much the tungsten would spread the shower going into the MPC crystals

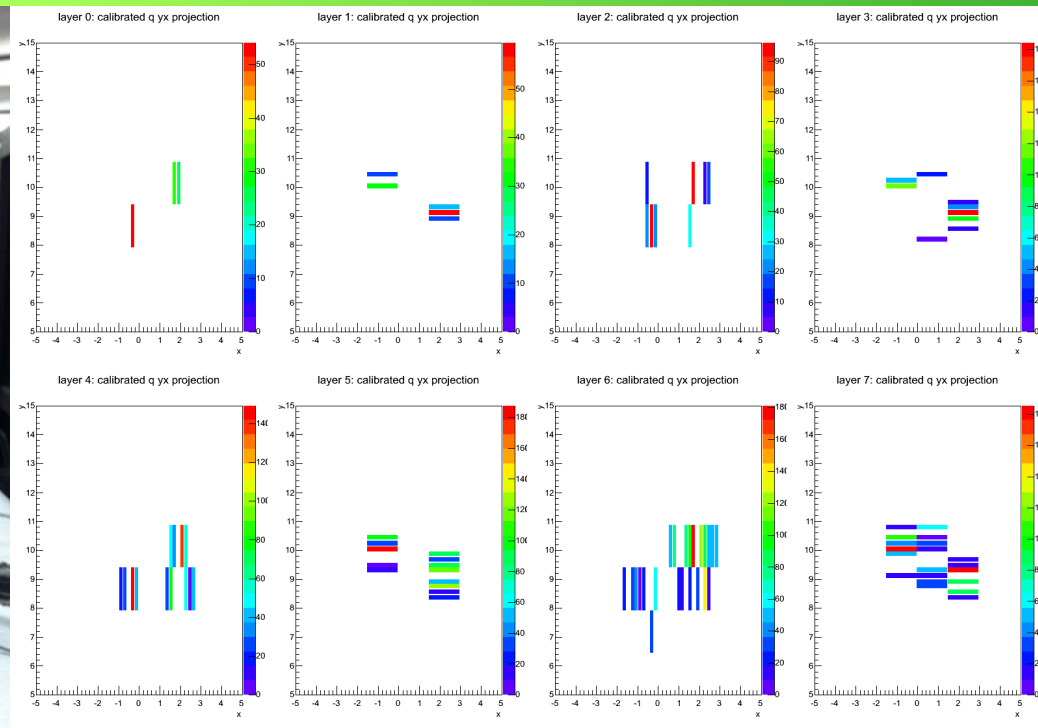
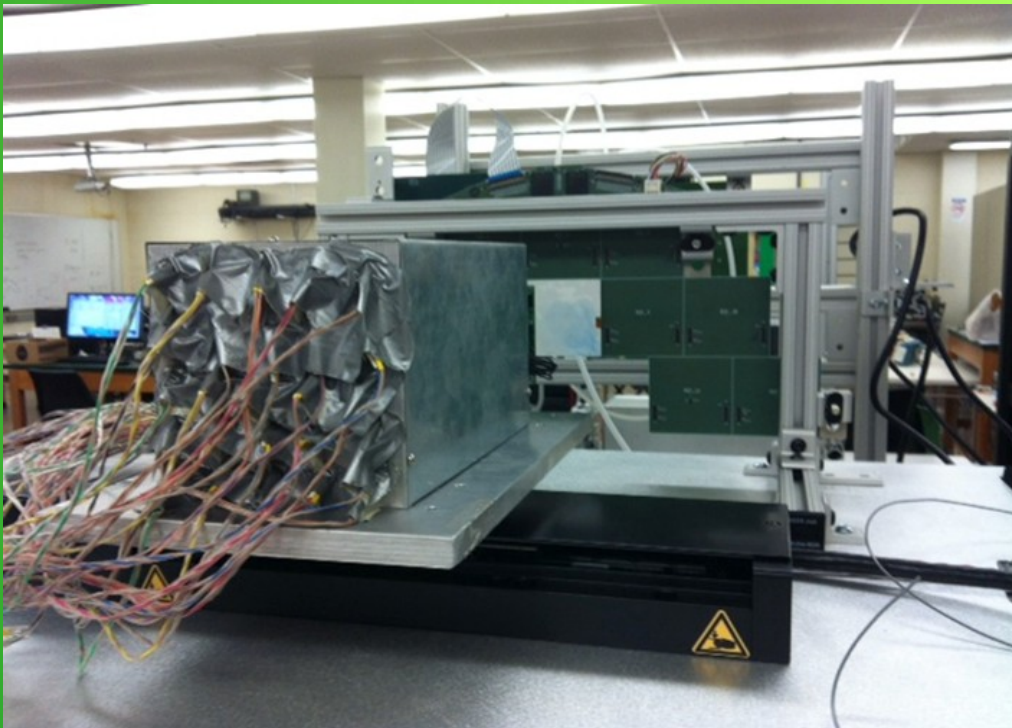
Box containing the PbWO_4 crystals

16 GeV electron beam toward the center crystal.



SLAC Test Beam

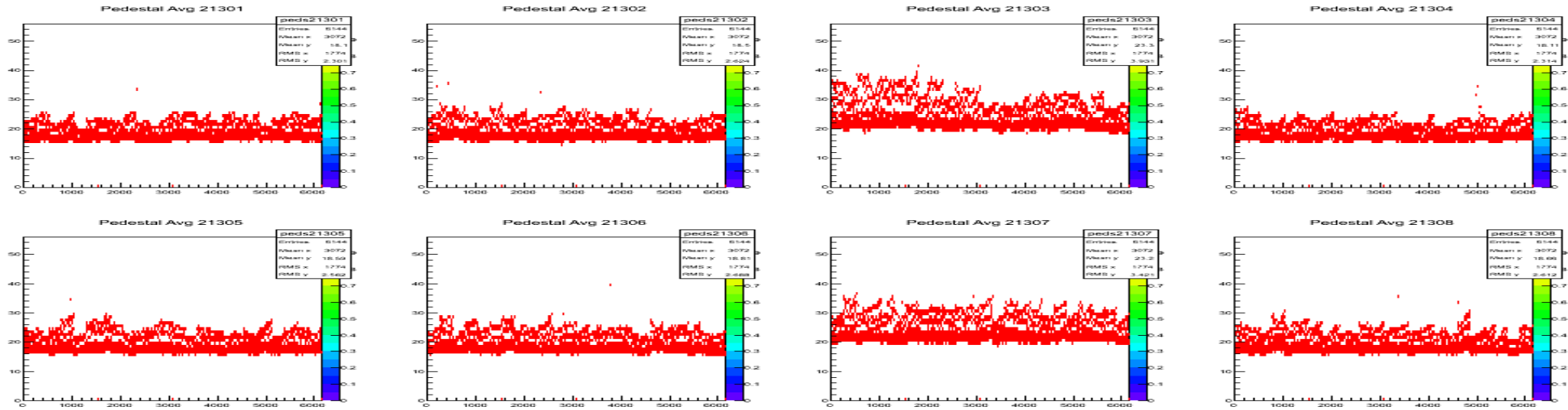
- Took an assembled section of MPC-EX and 25 PbWO_4 Crystals to simulate the MPC
 - Can the 2 or more electrons be detected individually?



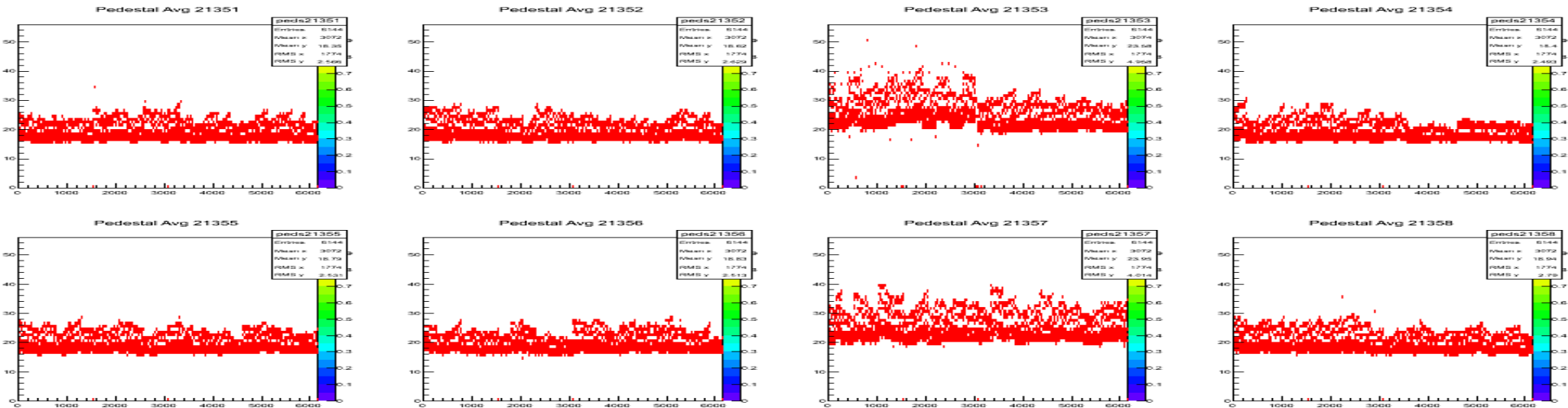
Run 15

- Was stationed at BNL to be an MPC-EX expert
- Primary duty was to take pedestal runs and do pedestal checking.
- MPC-EX needed to have single buffered runs, not multi-buffer = 4 as in the big PHENIX pedestal run.
 - So separate pedestal for MPC-EX had to be taken.
- Pedestals were very stable throughout the run.

Run 15 ctd.



MPC-EX North Packets, Run 433934



MPC-EX South Packets, Run 433934

Energy Calibration

- Need to reconstruct the energy of a shower in the MPCEX and MPC.
- Want to know:
 - How is shower energy correlated between MPCEX and MPC?
- Using pythia simulation of single photon shower through MPC-EX and MPC.
- Iterative fitting procedure done to reconstruct energy as best as possible.
 - Still on-going.

Future Work

- Begin analysis for thesis!
 - Graduate?