

# Low-Level Quality Parameters

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UW

IceCube Collaboration Meeting

Spring 2009

# Online Processing

Linefit Speed

Angle (LF/LLH)

Single SPE Panel Direction

Reduced Likelihood

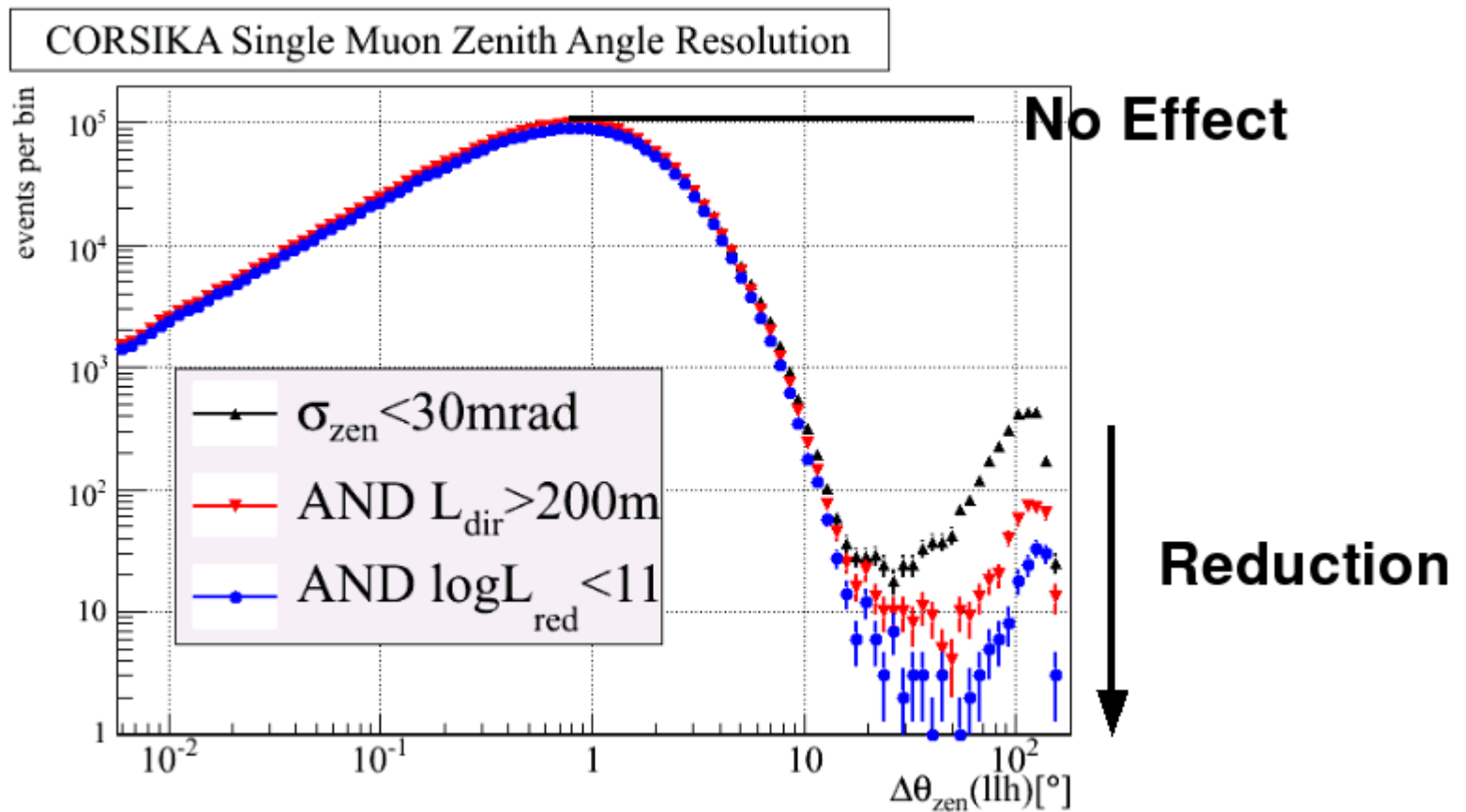
Total Charge

Number of Pulses

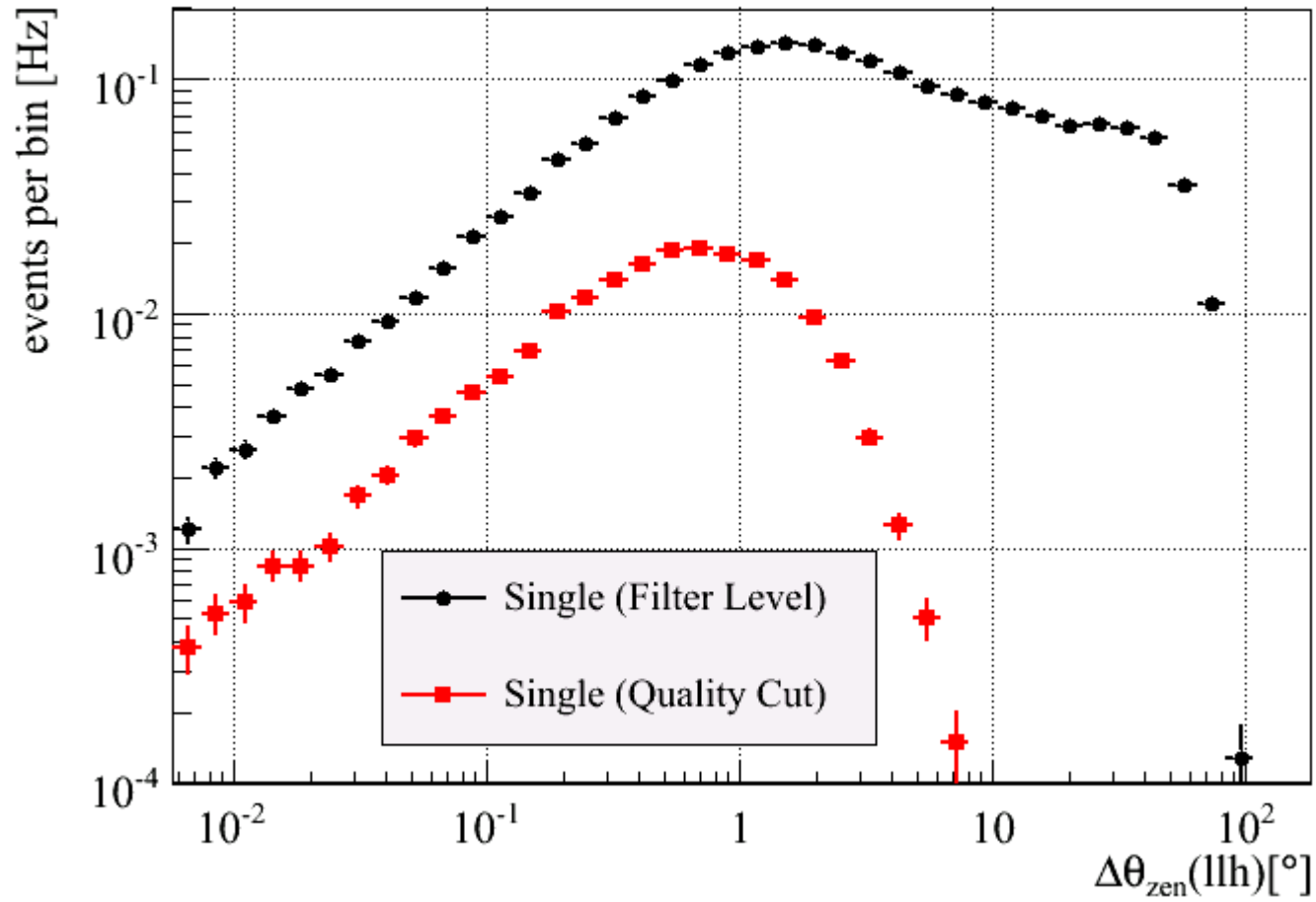
(Direct) Length

**Anything else is luxury!**

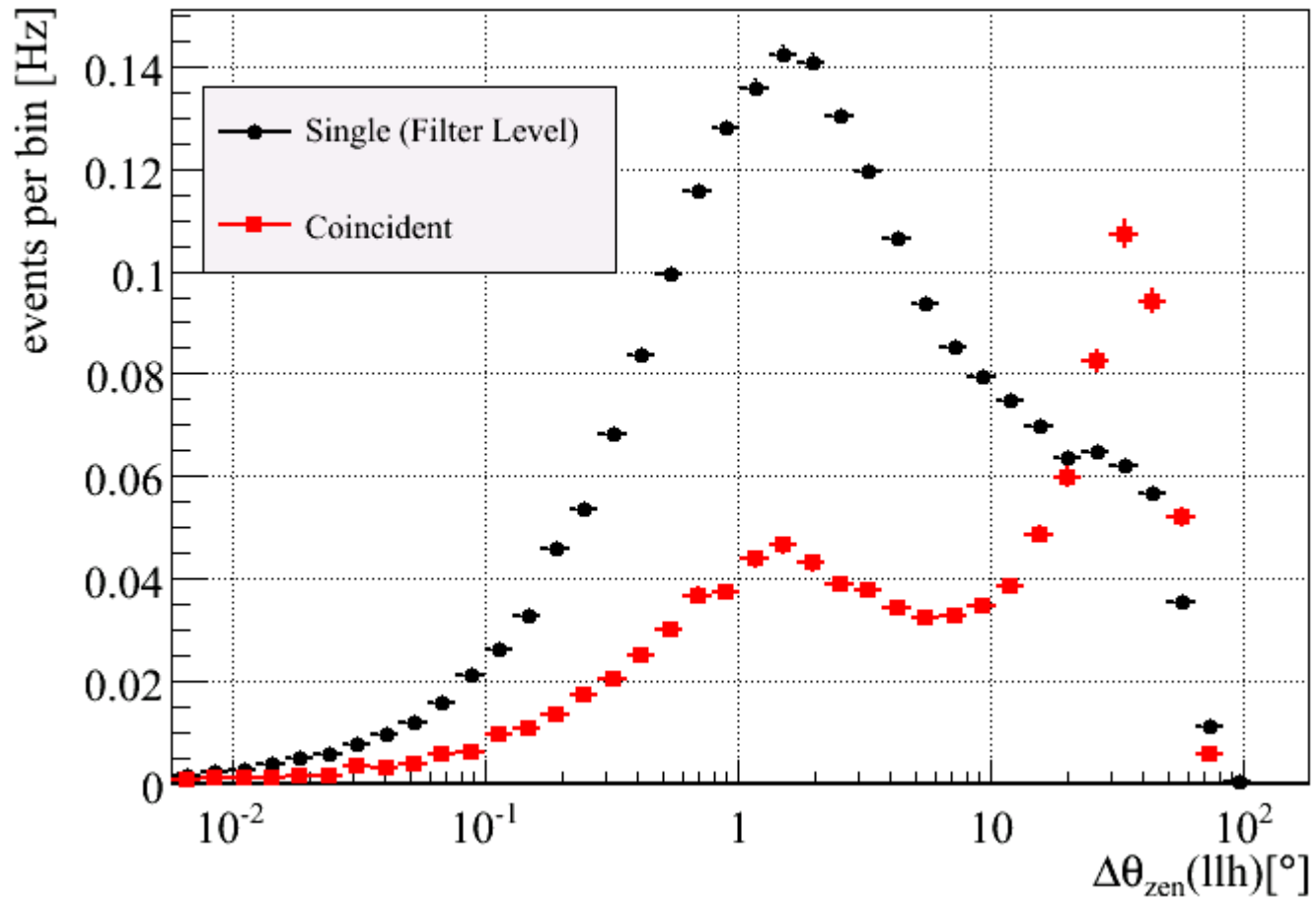
# PSF Basics I



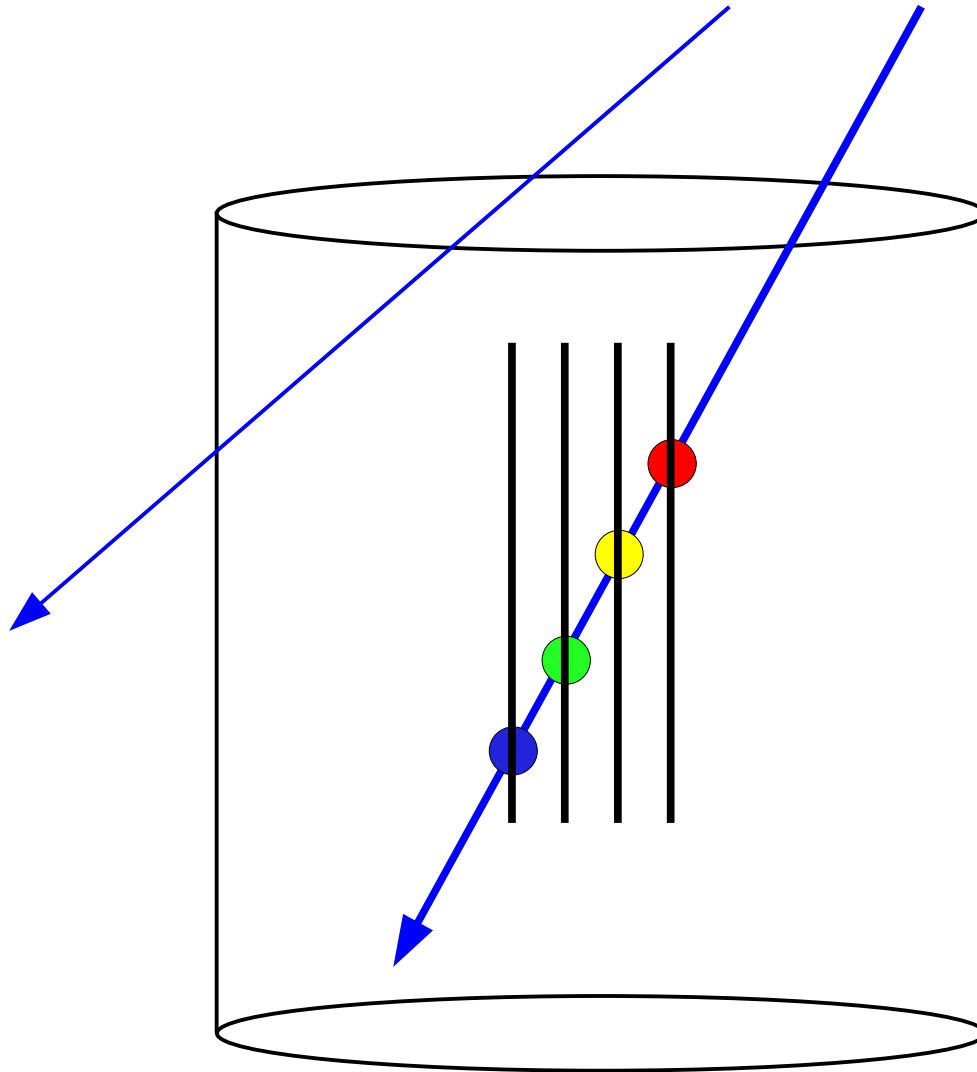
# PSF Basics II



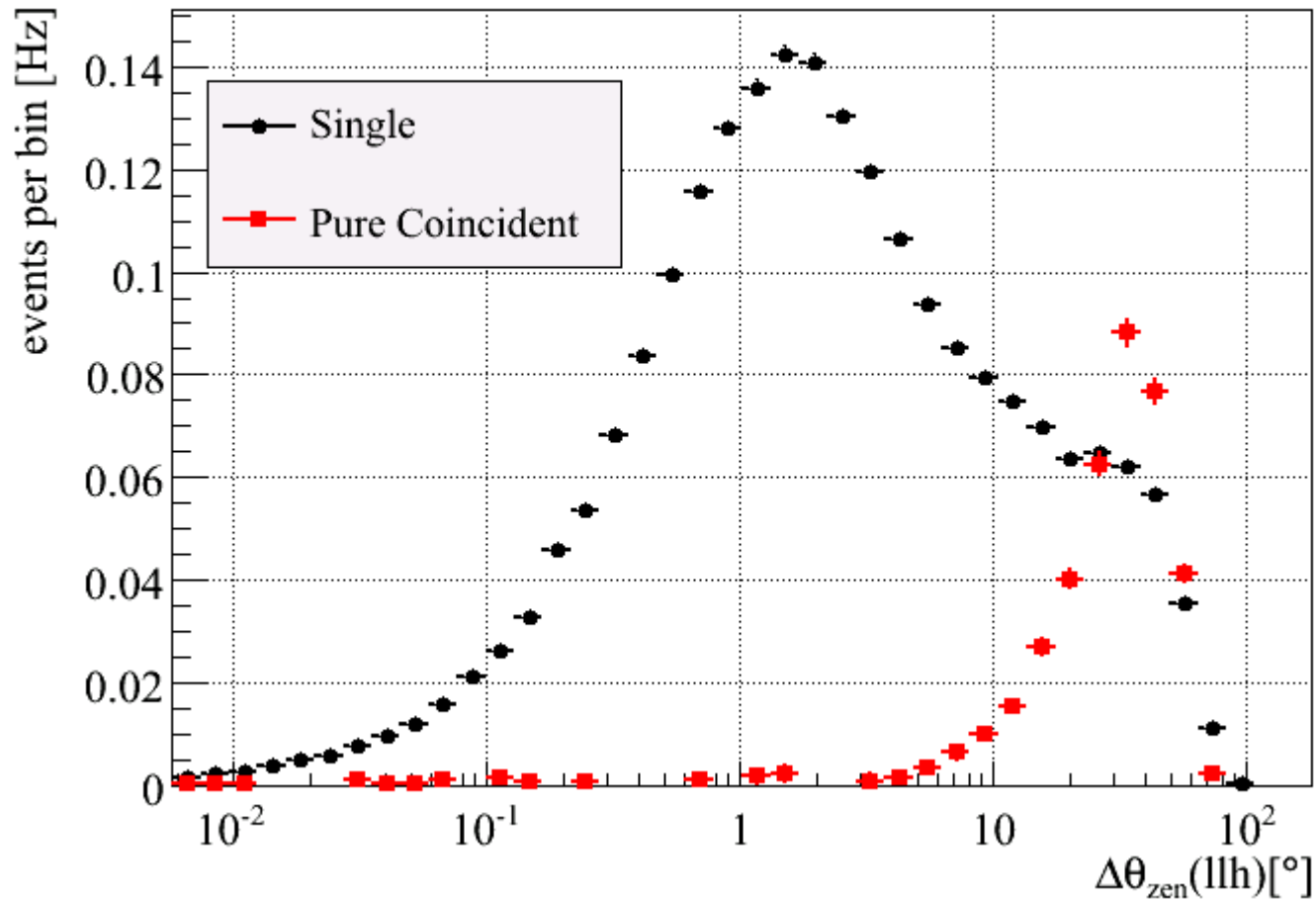
# “Coincident”



# Coincident?



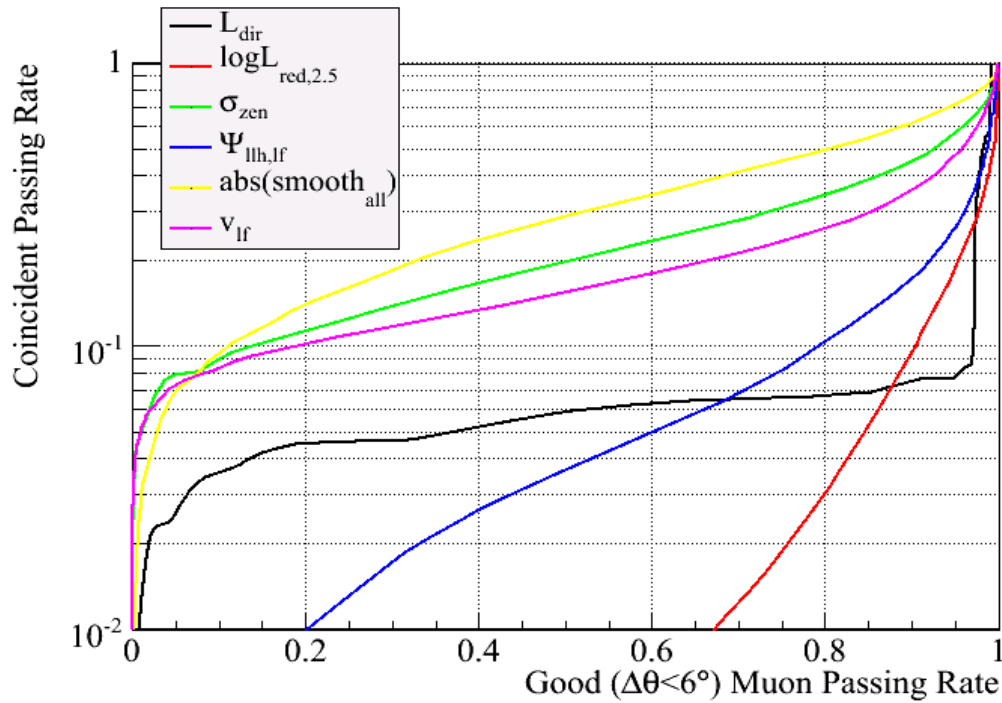
# Coincident!



$$\text{Single} = \text{Single} * 1.3$$

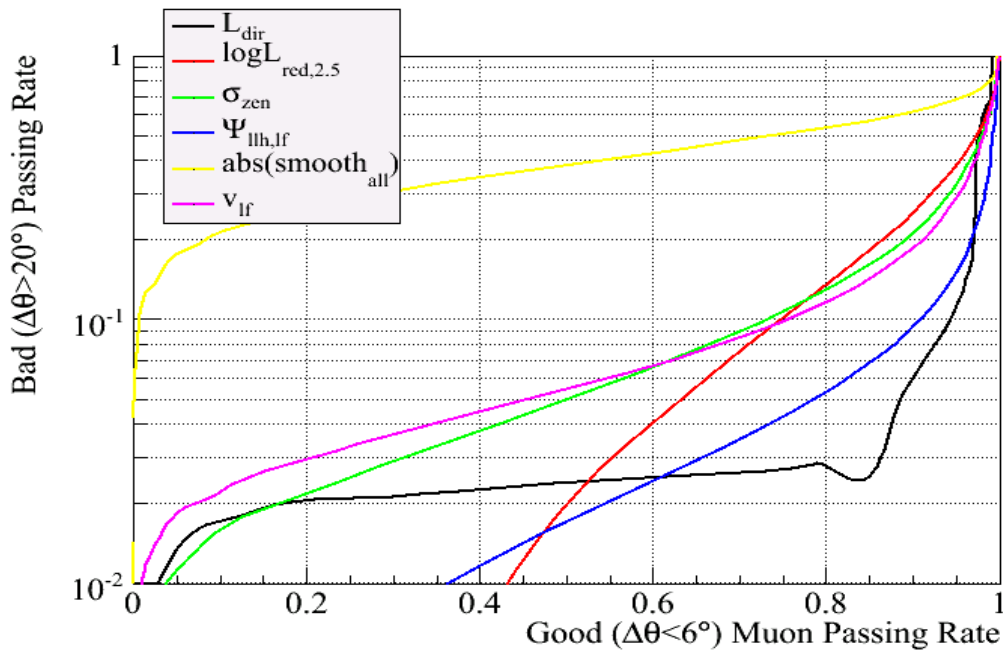
$$\text{Coincident} = \text{Coincident} - 0.3 * \text{Single}$$

**IC22!**



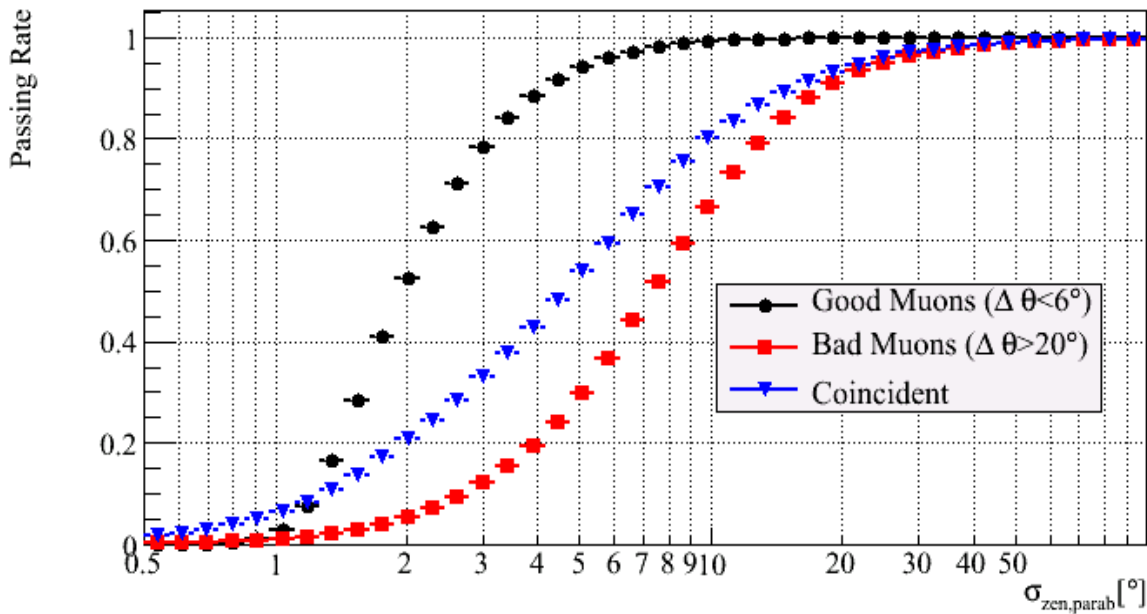
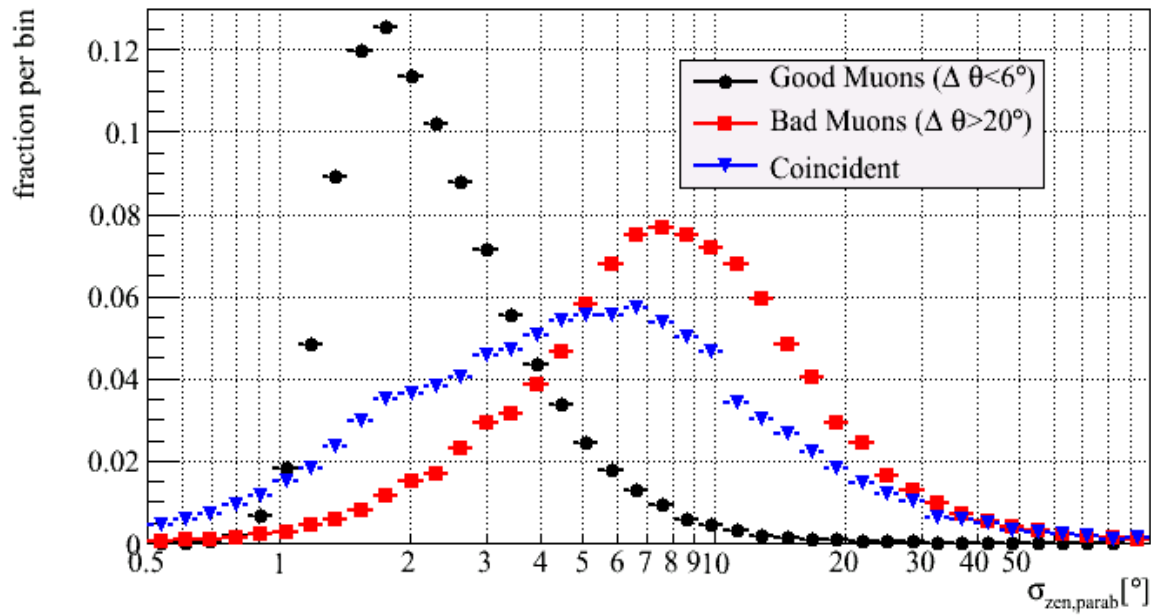
# Coincident

All except the green are available online!



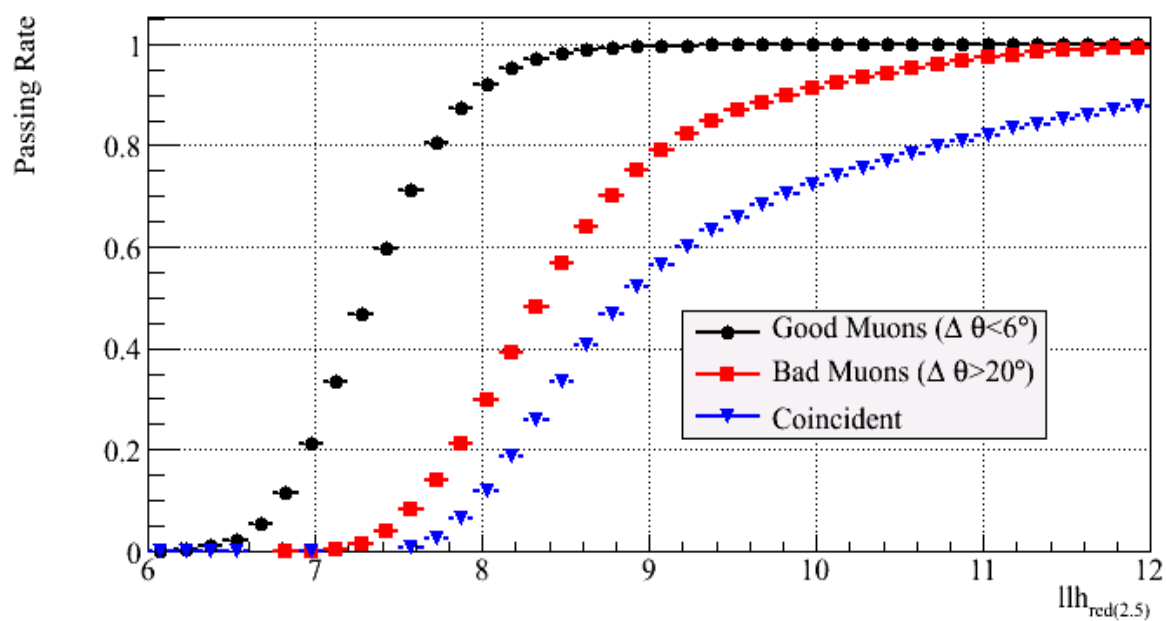
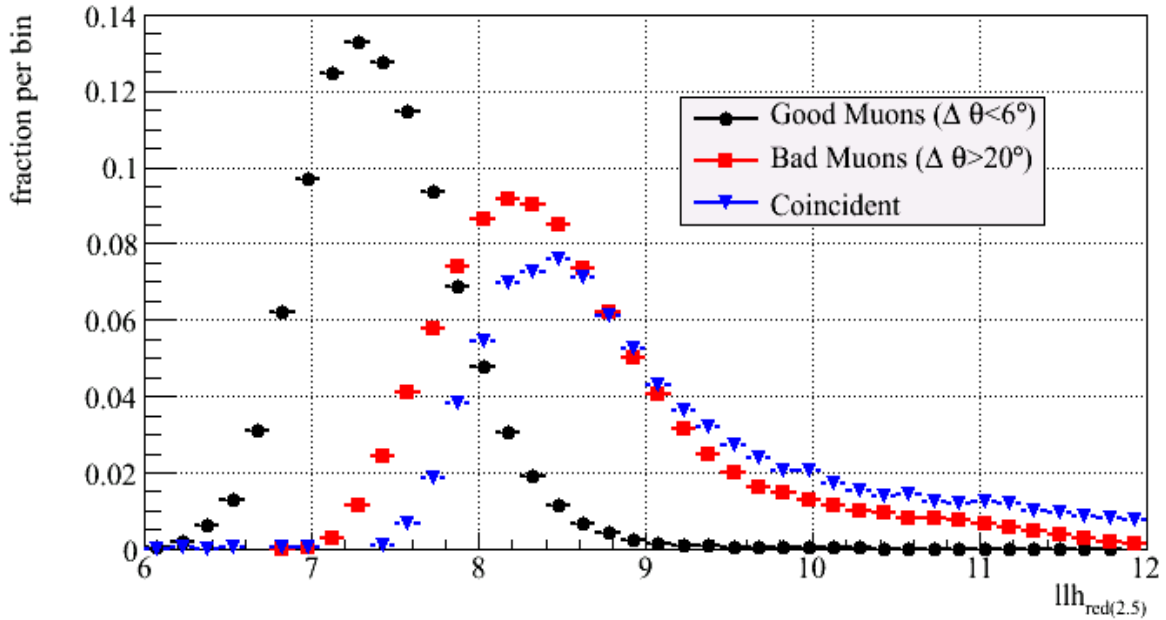
# Single





# Paraboloid Sigma

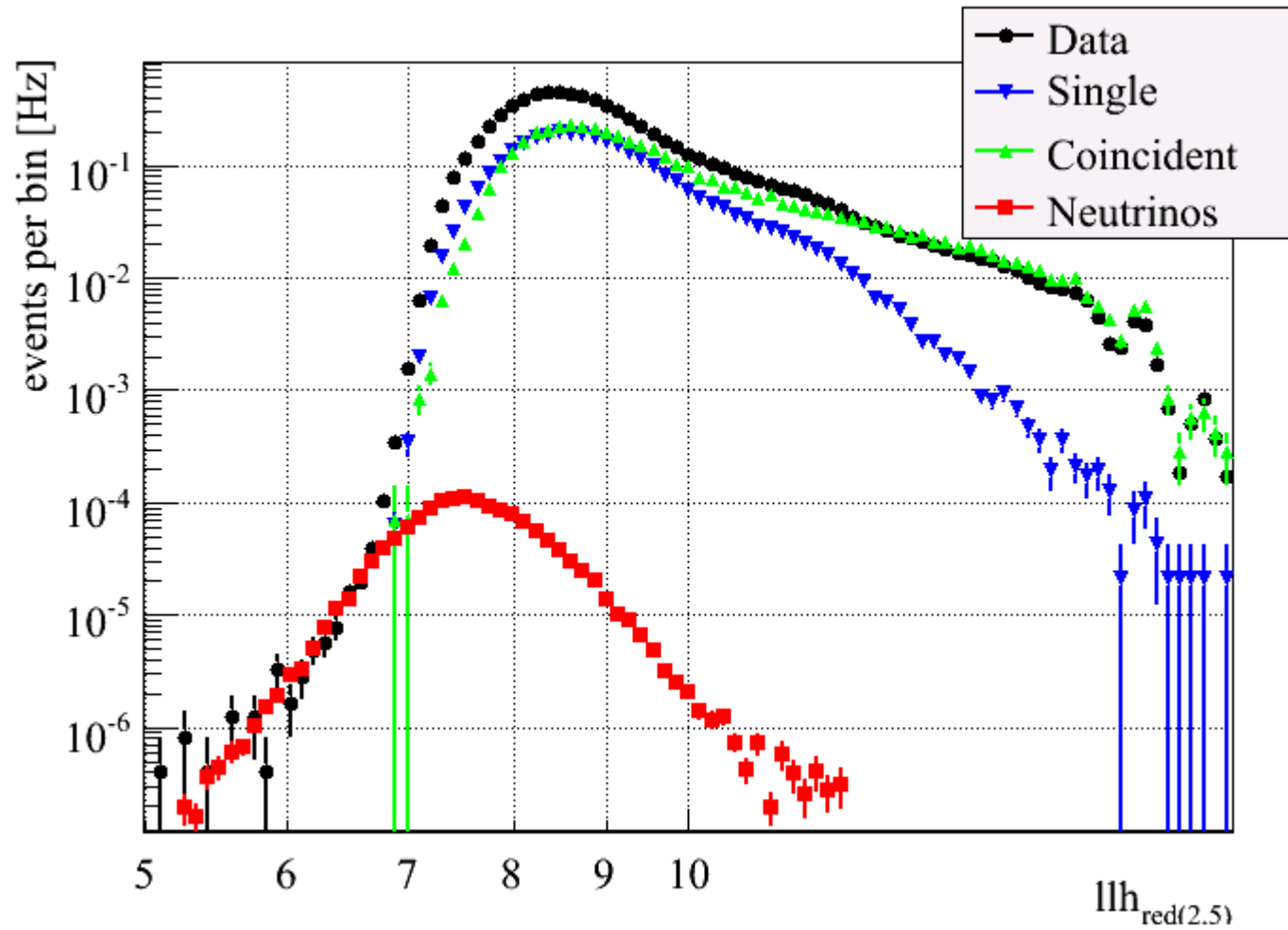




Reduced Likelihood  
**2.5!**

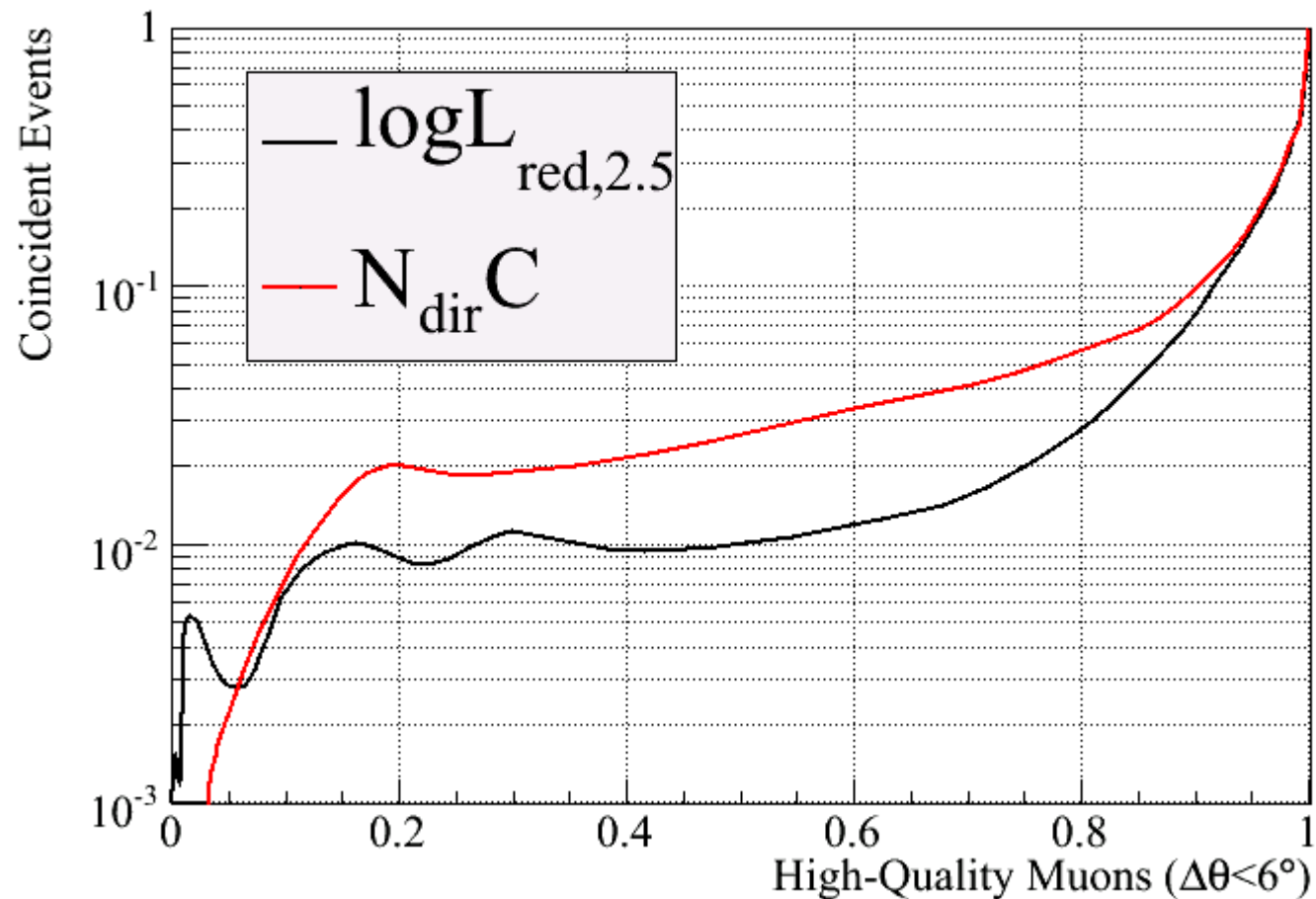


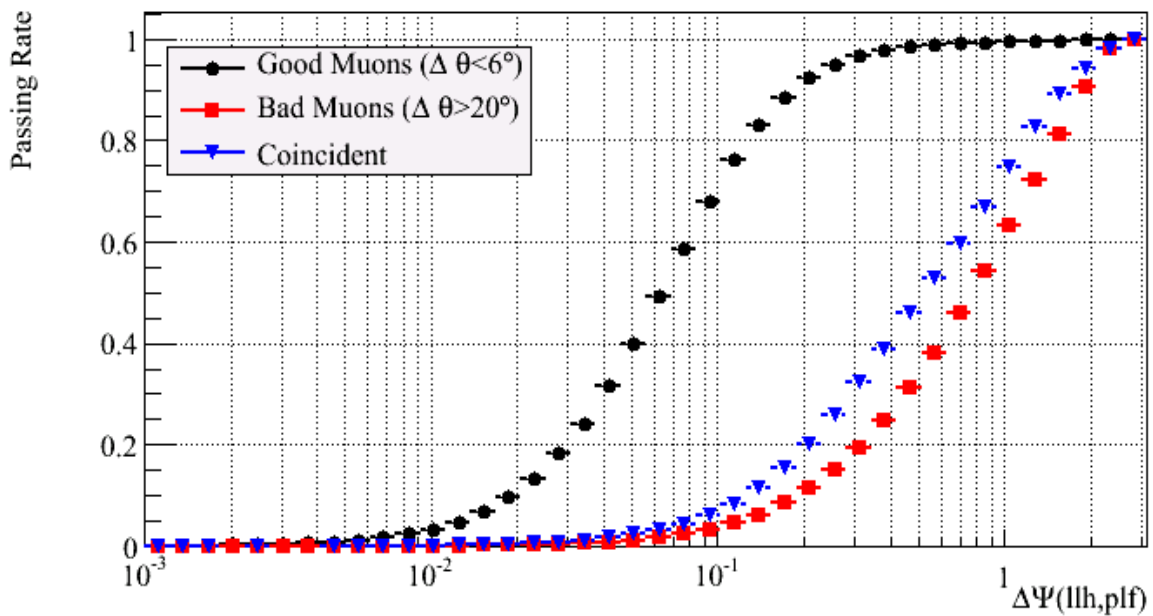
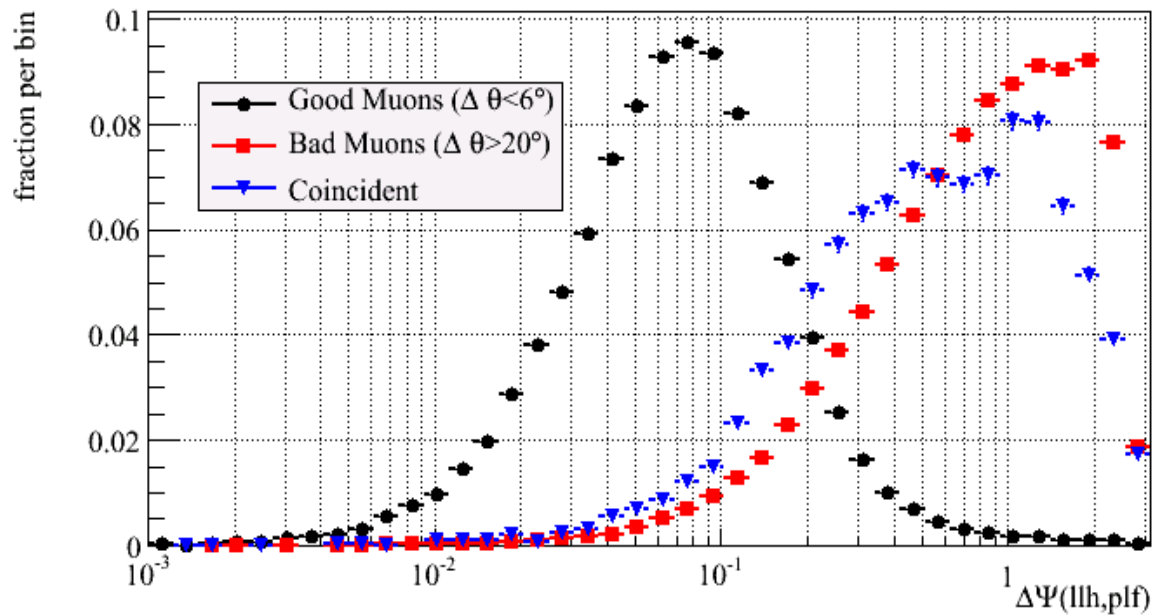
# “Jon Dumm's Plot”



IC22, October Data

# Direct ~~Hits~~ Channels is Obsolete!

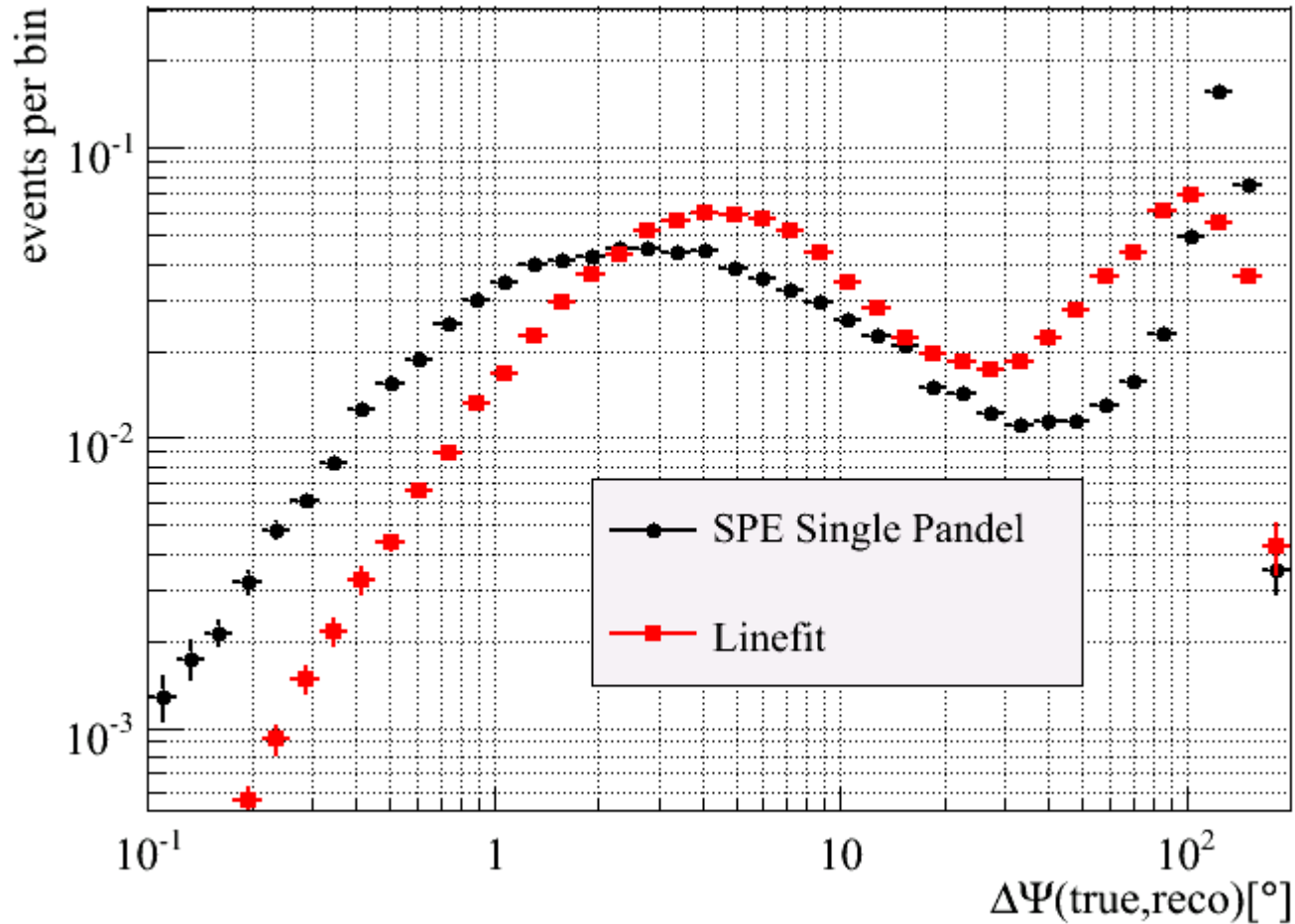




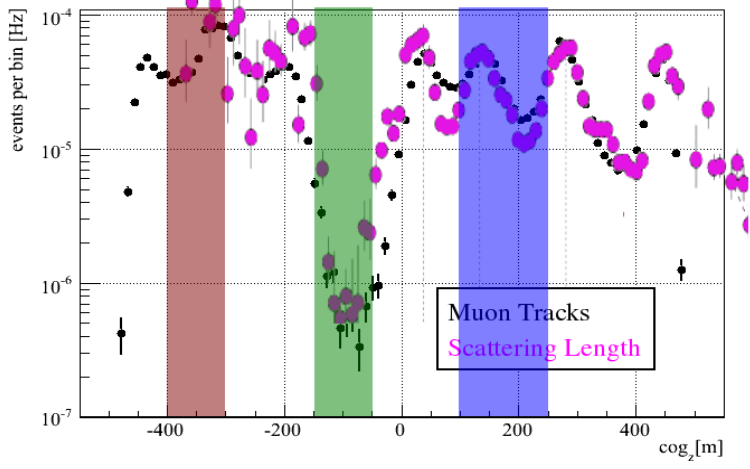
# Angle LF/LLH



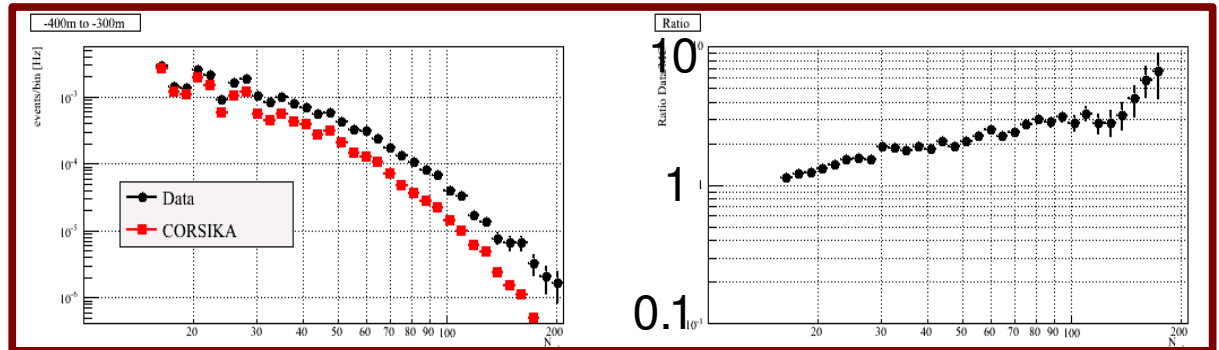
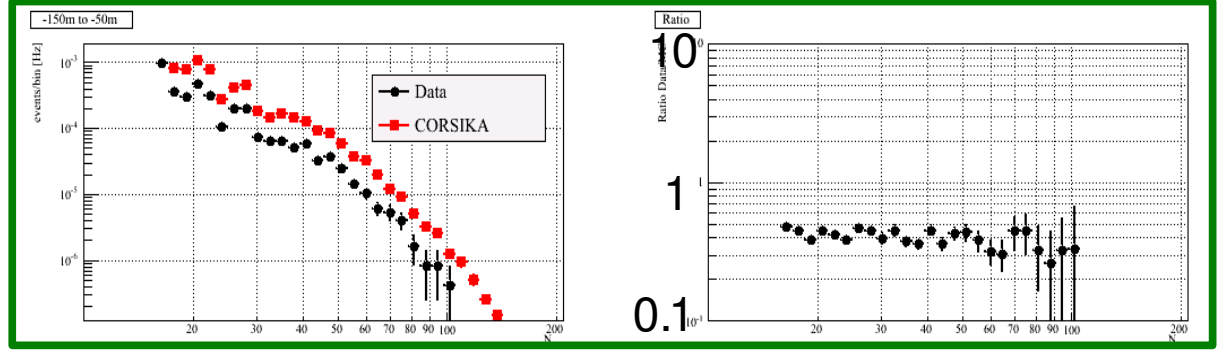
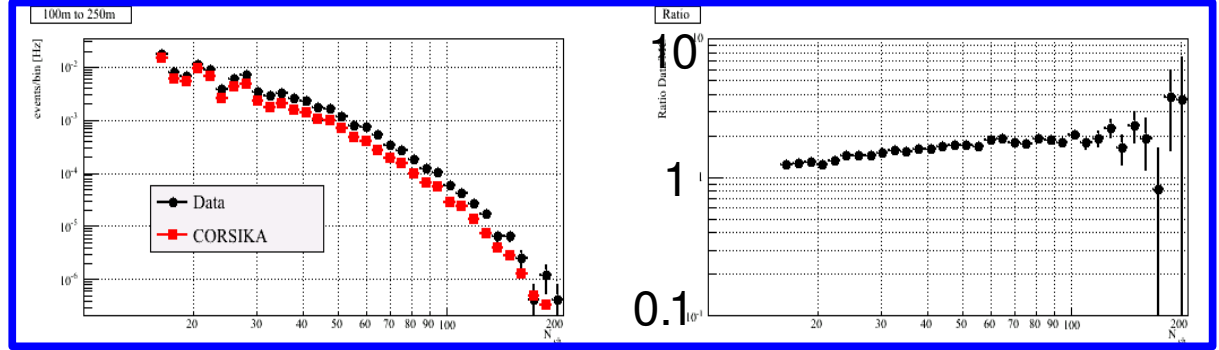
# A Tail of Two Reconstructions

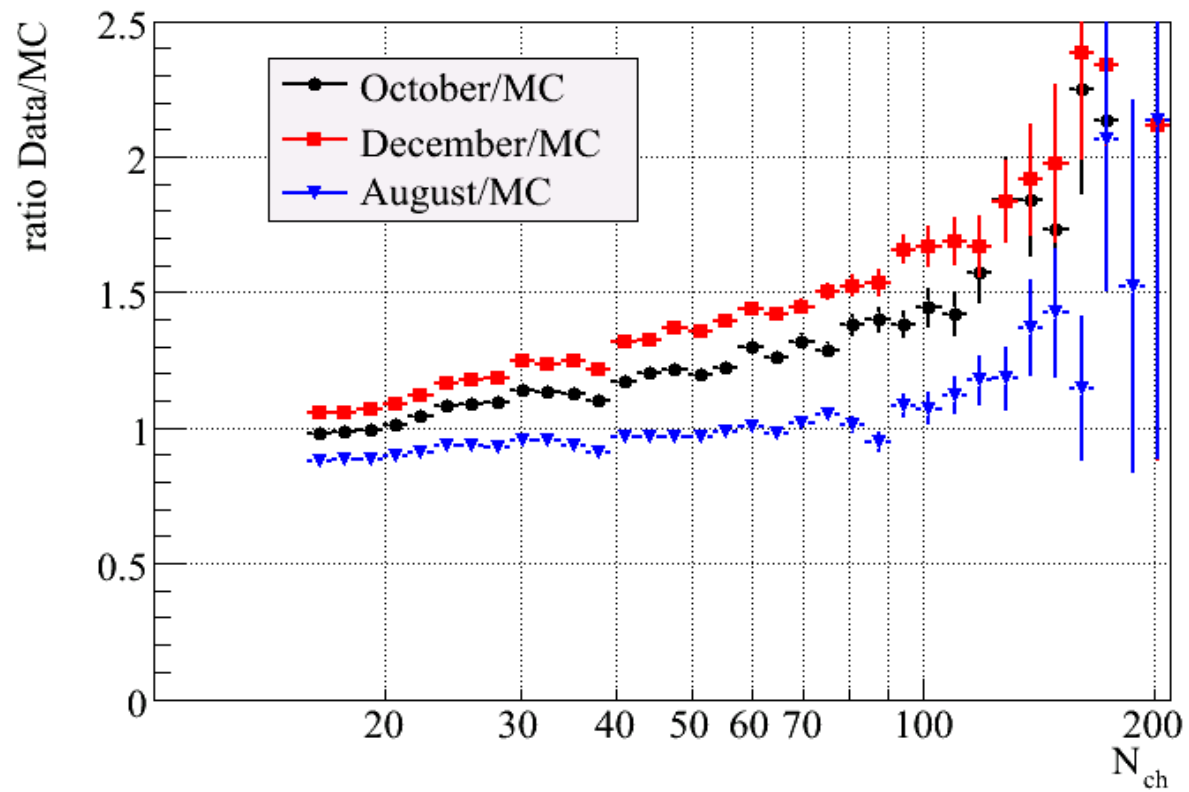


Muons, Slant Depth > 11 km



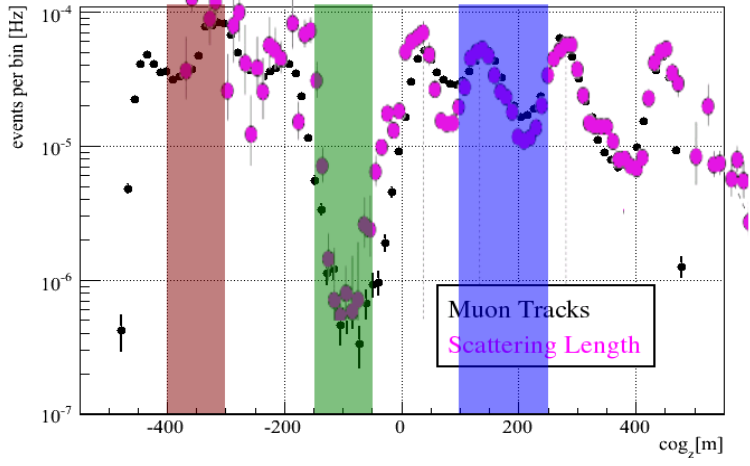
# N Channel



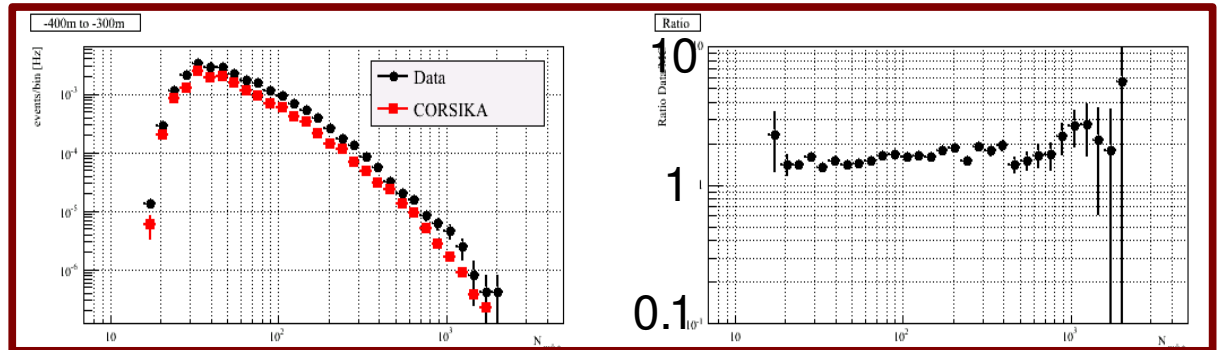
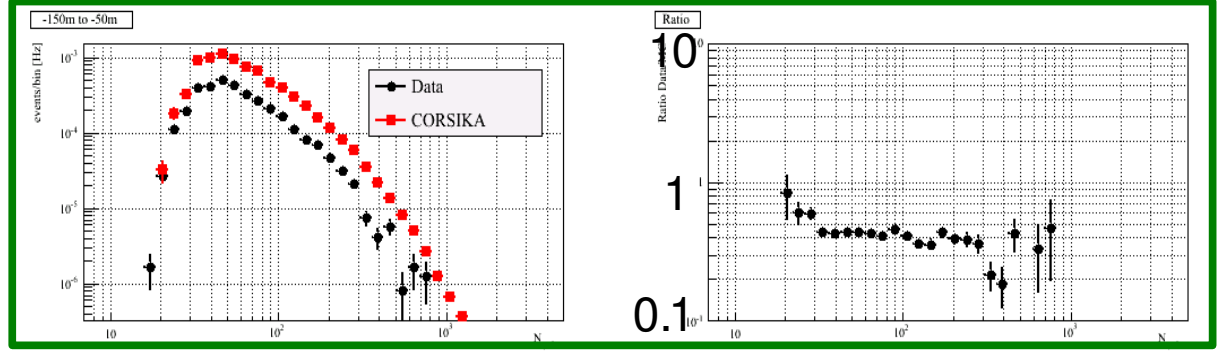
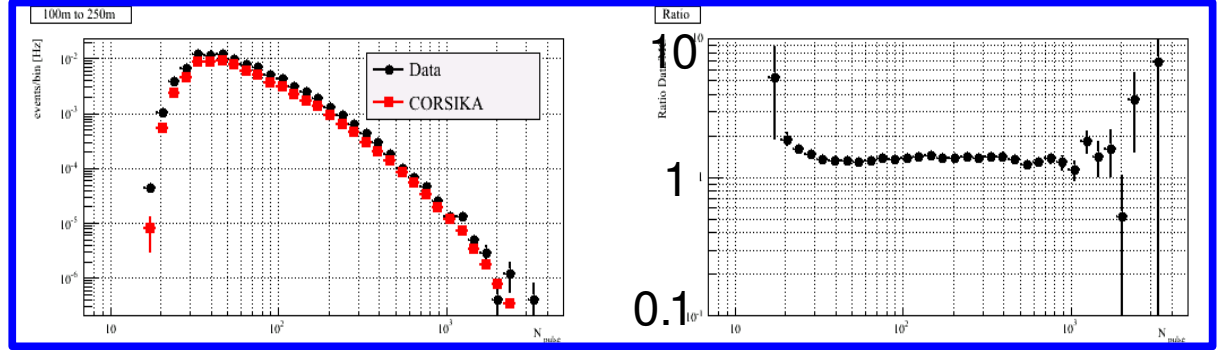




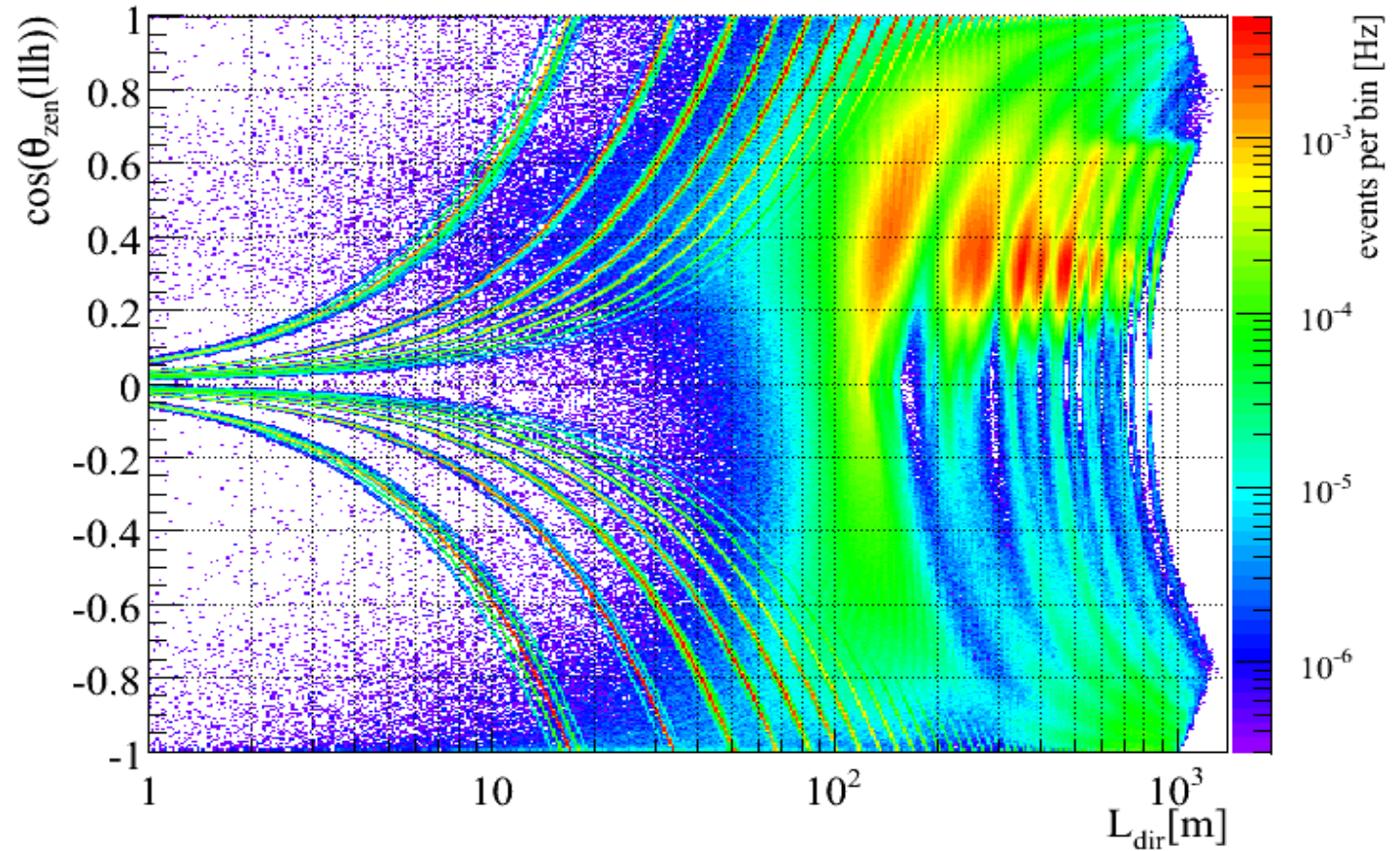
Muons, Slant Depth > 11 km



# N Pulse



# (Direct) Length



IC22 Data, Muon Filter, No Cuts

# “SPEFit16TimeSplit2Bayesian”



Belgenmop!

# Keep It Simple!

More Information:

[http://wiki.icecube.wisc.edu/index.php/Muon\\_Energy\\_Spectrum](http://wiki.icecube.wisc.edu/index.php/Muon_Energy_Spectrum)

/Quality\_Parameters

/Depth\_Dependence

/Seasonal\_Variations

/Energy\_Estimators