

## uBooNE Reconstruction - Milestone #13400

Milestone # 13399 (New): Parent reconstruction milestones/tasks for reconstruction necessary for MCC8 and reconstruction "v6"

### MCC8 and "v6" reconstruction development

08/02/2016 02:06 PM - Tracy Usher

<b>Status:</b>	New	<b>Start date:</b>	08/01/2016
<b>Priority:</b>	Normal	<b>Due date:</b>	01/31/2017
<b>Assignee:</b>		<b>% Done:</b>	31%
<b>Category:</b>		<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>			

#### Description

This is the parent milestone for the development phase of the intended improvements to the reconstruction for MCC8 and reconstruction "v6"

#### Subtasks:

Milestone # 13403: Alternate Reconstruction Paths	<b>New</b>
Task # 13413: Integration of wire-cell into the LArSoft reconstruction chain	<b>New</b>
Task # 13415: Integration of linecluster/trajcluster into the LArSoft reconstruction chain	<b>New</b>
Task # 14204: Integration of Cluster3D into LArSoft reconstruction	<b>Work in progress</b>
Milestone # 13404: Optical Reconstruction	<b>New</b>
Task # 13418: Understand existing optical reconstruction in the Monte Carlo (MCC 7)	<b>New</b>
Task # 13419: Port LArLite based flash matching into LArSoft	<b>New</b>
Milestone # 13405: Shower Reconstruction	<b>New</b>
Task # 13420: Shower Reconstruction - Pandora tasks	<b>New</b>
Task # 13471: Track vs. shower classification	<b>New</b>
Task # 13472: Shower merging and characterisation	<b>New</b>
Task # 13473: Particle (esp. shower) merging	<b>New</b>
Task # 13421: LArLite/LArSoft merge of shower reconstruction elements	<b>New</b>
Task # 13425: Shower Reconstruction - OpenCV tasks	<b>New</b>
Task # 13633: Remove external shower-reconstruction dependency	<b>Assigned</b>
Task # 13634: Overlapping track removal	<b>Assigned</b>
Task # 13747: Pi0 Clustering	<b>New</b>
Task # 13635: Pi0 data sample reconstruction	<b>Assigned</b>
Task # 13636: sample identification [through hand-scanning]	<b>Resolved</b>
Task # 13637: sample re-processing with gaussian deconvolution filter	<b>Resolved</b>
Task # 13638: sample re-processing with updated hit-finder thresholds	<b>New</b>
Task # 13639: shower 3D start point reconstruction	<b>New</b>
Task # 13640: Energy reconstruction	<b>New</b>
Task # 13641: electronics gain calculation	<b>New</b>
Task # 14360: MC gain estimation and validation	<b>New</b>
Task # 14361: DATA gain validation	<b>New</b>
Task # 13643: lifetime correction	<b>Resolved</b>
Task # 13644: recombination correction	<b>New</b>
Task # 13645: dead-wire region impact on energy	<b>New</b>
Task # 13646: charge clustering impact on energy estimation	<b>New</b>
Task # 13647: containment of charge in TPC : study and corrections	<b>New</b>
Task # 13648: 3D shower direction reconstruction	<b>New</b>
Task # 13649: neutrino vertex resolution measurement /estimation	<b>New</b>
Task # 13650: shower dE/dx reconstruction	<b>New</b>
Task # 13651: Pi0 Mass Peak reconstruction	<b>New</b>
Task # 13652: detector energy calibration	<b>New</b>
Task # 13653: data-driven 3D direction & energy resolution calculation	<b>New</b>

Milestone # 13406: Vertex Reconstruction	<b>New</b>
Task # 13428: Vertex Reconstruction - Pandora tasks	<b>New</b>
Task # 13469: Creation and refinement of vertex candidates	<b>New</b>
Task # 13470: Scoring of vertex candidates	<b>New</b>
Milestone # 13407: Track Reconstruction	<b>New</b>
Task # 13427: Interface to new Track Fitter	<b>New</b>
Task # 13426: Track Reconstruction - Pandora tasks	<b>New</b>
Task # 13474: Missing tracks (fully-enclosed in gap in one view)	<b>New</b>
Task # 13475: Improved 3D SpacePoints	<b>New</b>
Milestone # 13408: Cosmic Ray tagging for use in reconstruction	<b>New</b>
Milestone # 13409: Cosmic Ray Tagger reconstruction	<b>New</b>
Milestone # 13410: Hit Finding	<b>New</b>
Task # 14341: Optimize existing hit finder parameters	<b>New</b>
Milestone # 13411: Reconstruction workflow	<b>New</b>
Milestone # 13412: Final Object Selection	<b>New</b>
Milestone # 13417: Common metrics for evaluation and validation	<b>Assigned</b>