WP 4 (Mu2e) status

Task 4.2 (EMC):

main contributors (currently):

- INFN: S. Di Falco, L. Morescalchi, G. Pezzullo
- FNAL: P. Murat
- CALTECH: B. Echenard

Current Status:

Calorimeter simulation is well established: geometry, details physics effects taken into account, reconstruction etc...

Work in process on (as reported on doc: #6249):



Geant 4: include electronics, front/back plates, support structure, readout structure **Digitization** (priority): finish code, optimize and deploy (people have reported leaks with current code) propagate MC truth

Clustering: essentially done, tweak parameters to improve resolution.

Track – cluster matching: deploy new code with ML algorithm

Trigger: develop calorimeter-assisted trigger code and assess performance develop calorimeter standalone code and assess performance

Calibration: currently nothing – coders don't need to worry about breaking existing code

Cosmic Rays: base ideas but not yet implemented.

06/23/16

WP 4 (Mu2e) status

Hole through Muon Beam Stop

allows passage of signal photons

Task 4.2 (HPGe):

main contributors (actually):

• BOSTON: A. Palladino, J. Quirk

Current Status: STM simulation is in Mu2e Offline framework: geometry, details physics effects taken into account and some analysis tools are present.

reduces rate of muons escaping downstream Thin Vacuum Window Hole through Concrete Endcap Shielding allows Shield prevents Michel electrons Permanent dipole magnet Collimator blocks inner surface passage of signal (from muons stopping in air) sweeps negatively charged of magnet. endcap shielding. photons from causing deadtime in particles to the floor and Muon Beam Stop from STM field-of-view the Cosmic Ray Veto Muon Concrete Production Field-of-view Spot-size Transport Detector Vacuum Endcap Beam Window Shielding Solenoid Solenoid Solenoid Collimator Collimator Stop Stopping **HPGe** Production Straw Calorimeter Permanent dipole Tracker Target Detector Target Sweeper Magnet

More details on doc: #4902, 6680, 6494, 5128, 6183, 5730



Cosmic Ray Veto

Poly absorber further