

- **Local reconstruction:**
  - RawData unpacker (Digi building):
    - test new method that avoids data copy: started; covered (R. Bainbridge); low priority
    - implement unpacking on-demand for HLT speed up purposes: not started; uncovered; medium priority  
Note: all necessary tools to achieve this goal have been recently made available by the CMSSW framework team (C. Jones)
    - other tasks related to the Rawdata unpacker can be found in the Commissioning task list
  - Cluster Building:
    - Algorithm and code to read peds/noise/bad strips from offline DB: stable, but lacks gain calibration; covered (D. Giordano);
    - Modules to compute and store into offline DB peds/noise/bad strips: two working algorithms (need to improve speed in one and cleanly release the other); covered (D. Giordano, S. Dutta, S. Gennai, P.G. Lenzi); high priority
    - Modules to compute, store into offline DB and read back the optical gain equalization factors in the cluster building: not started; uncovered; medium priority  
Note: S. Mersi has proposed a method, which however needs to be implemented in CMSSW and further studied
  - Hit reconstruction:
    - Algorithm: stable, but lacks det by det calibrations/parameters; covered (C. Genta, A. Gay); medium priority
    - Modules to compute, store into offline DB and read back Lorentz angle measurement with cluster width: algorithm well advanced, but lacks code to interface to offline DB; covered (C. Genta, S. Frosali); medium priority
    - Modules to compute, store into offline DB and read back eta function corrections and capacitive couplings: not started; partly covered (P. Lenzi); low priority
- **Alignment:**
  - run/study official algorithms on MTCC setup: started; covered (D. Benedetti, M. Biasini, O. Buchmueller, B. Caponeri, F. Ronga); high priority
- **Tracking:**

run/study algorithms on MTCC setup:

- cosmic track finder: almost stable; covered (M. Pioppi, D. Benedetti); high priority
- Combinatorial Track Finder: not started, partly covered (B. Mangano?); medium priority
- road search: started; covered (C. Noeding, S. Wagner); high priority

- **Global reco:**

- combined Tracker+Muon: started; partly covered (M. Pioppi, P. Azzi, O. Pooth, G. Kaussen); low priority

Note: DT contacts: C. Liu, R. Bellan, RPC contact: M.Maggi; CSC contact: ?

- combined Tracker+ECAL/HCAL: not started; uncovered (ECAL contact: G.Franzoni); low priority

- **Visualization:**

- allow tracks to be visualized as smooth helices: started; covered (G. Zito, M. Mennea, G. Kaussen); high priority

- **Detector Understanding:**

- study pedestal/noise/bad strips vs time and magnetic field: started (A. Santorsola); partly covered; high priority  
Note 1: code exists to calculate ped/noise vs time out of Virgin RAW data on CMSSW data files (S. Dutta, S. Gennai).  
Note 2: code exists to compare ped/noise data in Local DAQ ("RootAnalyzer") output format (S. Mersi, A. Kaminisky). Need to port  
Note 3: code exists to access the offline DB and plot peds/noise/bad strips stored on it. (D. Giordano).
  - Develop a standard procedure and tools (need to port some; see Note2) to perform this kind of studies: started; partly covered (D. Giordano, P.G. Lenzi, but need help); high priority.
- study variations of response by different APVs and channels; not started; uncovered; medium priority

Note: this item is strictly related to the development of the software modules needed to take into account the gain equalization mentioned in the section “Cluster Building”

- Study cluster size, signal to noise ratio vs time and magnetic field: started; partly covered (A. Santorsola, D. Giordano, L. Fano`); high priority
- Study Lorentz angle (C. Genta, S. Frosali), eta function (P.G. Lenzi), capacitive couplings (nobody) vs time and magnetic field: started; partly covered; high priority.  
Note: this item is strictly related to the development of the software modules needed to take into account the corrections mentioned in the section “Hit Reconstruction”
- Study best parameterization of crossing position and error: started (I. Tomalin); uncovered; high priority
- Study DCS data (temperature, currents, voltages,...): started; partly covered (Alice Bean, J. Chen and Kansas group); high priority
- Correlation of event data with DCS data : not started; uncovered; medium priority  
Note1: several ways to do these correlation studies are proposed, but none tried so far. One of these (by F. Glege et al.) consists of having the DCS data exported out of the online DB and input to CMSSW where it would get synchronized to event data (to be tried..)  
Note2: D. Kcira is developing a special “Historic Information” DQM client that will store on the online conditions DB run averaged event data values (occupancy per det, cluster size per det,...) . Correlation could be done directly against this data.
- subsystem specific studies (noisy dets, unexpected behaviours, comparison with 186 data and construction infos, ...):
  - TIB: ? ;uncovered; high priority
  - TOB: ? ;uncovered; high priority
  - TEC: started ;O.Pooth, G. Kaussen; high priority

- **Simulation of MTCC/TIF setup**

- study of MTCC triggers and optimization of muon generators: started; partly covered (M. Chiorboli, M. Cardaci); high priority
- TIF geometry: started; partly covered (R. Ranieri); high priority

- Detector response tuning: started; partly covered (M. Chiorboli, L. Fano', A. Giammanco); medium priority
- **Data Processing:**
  - Development of special modules producing data relevant to various analyses; started; covered (D. Giordano); medium priority  
Note: currently we have additional Cluster related information to add to the event data files. Any other related to RecHits, Tracks needed ?
  - MTCC data reprocessing
    - produce data files with tracks, clusters and additional information (see above) using "best" peds/noise/bad strips from offline DB: started; covered (C. Noeding (FNAL)); low priority  
Note: all scripts available under  
AnalysisExamples/SiStripDetectorPerformance/data
  - TIF data processing: not started; uncovered; low priority
  - O2O
    - pedestal/noise/bad strips: almost stable (need to transfer MTCC data; need to consider automatic procedure to be integrated in Run Control); covered (D. Giordano); high priority
    - Power supply state: not started (transfer to offline DB the PS modules status at the start/during runs so that they can be used at track reconstruction level); uncovered; low priority.
  - Run bookkeeping:
    - integration of DQM summary in global bookkeeping tool: not started; uncovered; high priority
    - integration of configuration data in global bookkeeping tool: not started; uncovered; high priority
    - integration of DCS data: started; uncovered ; high priority  
Note: a general online DB browser functioning as a web server exists already (CMS page 1 and "run summary" page). DCS data can already be browsed there. The work here consists of contacting the authors (Bill Badgett, Ad Aerts et al.) and have the needed info/plots browsable.