	CAL Calibration Action Items					
		Last Modified:	2/11/08			
Action Item No.	Description	Assigned to	Date Assigned	Date due	Date Complete	Notes
1	Write CAL calibration procedure doc	Mark				
2	Organize weekly CAL calibration EVO meeting schedule	Mark				
3	Produce model quenching curves vs energy, Z; Normalized to dL/dE electron/dL/dE proton/muon=Qmu/e = 1.07 (beam test results); Note that due to normalization to electron equiv. MeV, we need a curve for protons/muons (a constant "curve") as well as heavier ions.	Fred				This follows Benoit's proposed remediation for the beamtest discrepancy. The MC deposited energy will be mulitplied by a "quenching" factor as a function of Eincident and Z that will include the correction to electron equivalent energy. This takes place in CALdigi. Fred: what was resolution of quest to get individual particle type, Eincident and energy deposits included in integrating hits?
4	Create new calibration data type for quenching curves	Zach				
5	Verify with beamtest analysis that 1.07 is correct value for Qmu/e	Sasha				
6	Change muon/proton MIP peak energy in calibGenCAL to correct for Qmu/e	Zach				Results in muon/proton derived MevperDAC being computed in electron equivalent MeV units
7	Remove muon-centric assumptions in calibGenCAL to allow best range proton calibrations	Zach				
8	Create proton selection code for use with MIP and DGN filter data					
9	Create code in calibGenCAL to produce FSW peds and gains				2/12/08	Needs to be available ~L=21 days
10	Complete calibGenCAL modifications for GCR calibration	Zach				Code to handle multiple MevperDAC estimates, consistency checks, output to xml, etc
11	Incorporate mods to integrating hits to allow quenching in CALdigi to be incorporated in GLEAM	Zach				
12	Modify CALdigi to include quenching effects	Zach, Fred				Note that this process starts with muon/proton derived MevperDAC in electron equivalent units, and with quenching curves for muons, protons, and heavier ions. The result of runs with this version of CALdigi will be orbit-integrated estimates of the MPV for each ion, in electron equivalent units
13	Perform and analyze GLEAM runs to using new CALdigi in order to produce MPV for each ion	Fred, Andrey, Mark				Result will be MPVs for each ion to feed back into calibGenCAL
14	Review GCRselect treatment of interacting ions	Zach, Fred, Mark				This is required in order to determine in how much detail we apply quenching corrections in CALdigi i.e. how many particles are we likely to see in a given xtal, how do we deal with charge exchange interactions, etc.
15	Implement heavy ion TKRrecon mods	Johann, Fred				
16	Evaluate implications of ground software freeze on 16 March for calibration software	Eric, Zach, Sasha, Mark				GPO wants a SW freeze on 16 Mar. We're still arguing over what is contained in that freeze, but it's reasonable to assume that anything having to do with config build and verification might be frozen on that date. That means we need all of the threshold DAC calibration code done, configured, and packaged by that date.
17	Finalize Threshold DAC calibration code	Eric, Sasha, Zach				Needs to analyze the threshold scans defined by the attached configs. Needs to create LAC, FLE, FHE, and ULD calibration ancillary files in XML. Needs to be packaged and configured. Needs to run overnight without babysitting. Needs to work!
18	Check on source of estimated BT beam line energy uncertainty	Benoit	2/12/08			Beam folks have verified a 1% uncertainty. We want to know how they did this and get documentation
19	Produce a "master" set of BT vs MC discrepancy numbers vs angle (maybe: see notes), energy (not a plot)	BT group, Sasha	2/12/08			Sasha suggests that discrepancy numbers should be produced by comparing recon to beam energy for 45 deg incident, all energies. This decouples MC shower profile problems, picks maximum containment runs where shower profile is not as important. TKR hits vs energy (used in recon) is wrong in MC (which produced relation used in recon), but not as important above 1 GeV. Idea is to get Qmu/e without worrying about shower profile errors.
20	Review and plan for nonlinearity and x-talk corrections	Sasha, Mark	2/12/08			Sasha believes correct approach is to ignore FLE problems (due to higher flight FLE); nonlinearity problems corrected by linear assumption below some adc; x-talk correction issue still open
21	Plan for dealing with LAC thold variations with temp	Sasha	2/12/08			