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Subject: Re: EMC WorkPackages

Posted by [StefanoSpataro](#) on Thu, 04 Feb 2010 12:38:36 GMT

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The track-emc correlation can be easily taken out from the PndPidCorrelator. My idea was to have "friend" classes (i.e. PndPidEmcGeaneCorr) based on the Correlator, so that it is possible to have different kind of correlators musing the same TCA defined in the correlator. Then, there should be another class retrieving Emc info, i.e. PndPidEmcInfo.

At the moment both the functionalities are hardcoded in the correlator, but they can be easily decoupled (we are starting here to do something on this sense for the MVD).

About the energy calibration and so on, maybe this could run after the correlator, in the PndPidEmc part. In this case one could use not only the track-emc correlation, but also eventual correlation to DIRC/TOF/whatever, in order to improve emc energy resolution. If you a EmcCandidate isolated from the other detectors, this could be more difficult.

About the Bump splitting, I am wondering if maybe this task should be done as pid. A bump splitting algorith for pid could be able, in theory, to provide a probability that a neutral candidate is a pi0 or a foton. In this case the algorith should become a PidClassifier, filling likelihood/proabilities instead of giving just saying "one photon/two photon".

The latter is just a proposal to keep busy your minds I have seen a thesis using TMVA to do pi0 identification from the shower shape, and I am wondering if this could be used by us. In this case it becomes also easier to handle with different bump splitting algorithms -> different classifiers filling different PndPidProbability TCA.

Moreover, probably we do not need bump splitting for charged candidates, but I am not expert on this field then maybe somebody could comment.