Subject: Re: PID combiner with different detector
Posted by Ronald Kunne on Tue, 05 Nov 2013 10:39:20 GMT
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Your example is a bit off, as all the probas should add up to 1.

p(EMC) = 0.9 for electron, 0.025 for each of the others
p(MUO) = 0.2 for all particle.

Then we have:
p(EMC)*p(MUO) = 0.9 * 0.2 =0.18 for the electron
p(EMC)*p(MUO) = 0.025 * 0.2 =0.005 for the others
This adds up to 0.2, so the final result is

p(EMC)*p(MUO) = 0.18/0.2 = 0.9 for the electron,
0.005/0.2 = 0.025 for each of the others, as expected.

Quote:If I see a band at 0.2 in PID with usage of global probability and many detector types, that means
there are very poor information from all detector or
are most likely ghost tracks and low energetic electrons.

Or particles falling outside the acceptance of the detector, or outside the momentum range 0.2 < p < 5 GeV/c for which the calculation was made.