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Measurement of the Charged Kaon Mass Using the MIPP RICH
NICK GRAF, Indiana University, MIPP COLLABORATION — The current charged kaon mass of 493.677 MeV ±26 parts per million (ppm) is dominated by two measurements of kaonic atom x-ray energies. These measurements have precisions of 14 and 22 ppm, respectively, and differ by 122 ppm. Given its importance in measurements of V_{us} from K^+ decay, resolution of the ambiguity in charged kaon mass measurements is needed. This talk describes a method for making a measurement with 40 ppm statistical precision from the correlation between p, π, and K RICH radii and precisely known values of proton and pion masses. Analysis of data from the Main Injector Particle Production (MIPP) experiment taken during spring 2006 at Fermilab is presented.

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