

Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

New results from the PIBETA experiment¹ DINKO POCANIC, University of Virginia, PIBETA COLLABORATION — The PIBETA project has undertaken a to make precise measurements of the branching ratios of the rare pion decays: $\pi^+ \rightarrow \pi^0 e^+ \nu$ (beta), and $\pi^+ \rightarrow e^+ \nu \gamma$ (radiative), as well as the muon radiative decay $\mu^+ \rightarrow e^+ \nu \bar{\nu} \gamma$. We report updated results for the integral and differential branching ratio for these processes, as well as derived physical quantities: V_{ud} , the Cabibbo-Kobayashi-Maskawa quark mixing matrix element, F_A and F_V , the pion axial and vector form factors, respectively, a new limit on F_T , the pion tensor form factor, as well as a new value of the muon decay parameter $\bar{\eta}$. The project will next turn its attention to a new measurement of the $\pi^+ \rightarrow e^+ \nu$ decay rate.

¹Supported by US NSF, US DOE, PSI, JINR Dubna and RFBR

Dinko Pocanic
University of Virginia

Date submitted: 24 May 2005

Electronic form version 1.4