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Tagging Efficiency Measurements at the Nuclear Physics Beam Line at MAX-lab[1] MATTY LITWACK, Montgomery College and Georgia Tech, FOR THE MAX-TAGG COLLABORATION — A comprehensive series of near-threshold pion photoproduction measurements have been approved for the Tagged-Photon Facility at MAX-lab, the Swedish National Electron Accelerator Facility located at Lund University in Lund, Sweden. The photon beam is produced via bremsstrahlung radiation when a 200 MeV pulse-stretched electron beam strikes a 300 μm aluminum foil. To determine the absolute probability for producing pions, the exact number of photons striking the target must be known. This information is determined using the photon-tagging technique, where the momenta of the post-bremsstrahlung electrons are determined together with the number of radiated photons, their energies and their relative timings. An important quantity in the photon-tagging process is the tagging efficiency. The tagging efficiency is the ratio of the number of photons striking the target to the total number of photons produced at the radiator. In this poster, the principles of photon tagging and tagging efficiency are illustrated. A detailed analysis of the daily tagging efficiencies determined during a recent four-week run period at MAX-lab is presented, and conclusions based on these results are discussed.

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