

# **Measurements and Benchmark Simulations of Photo-Neutron Yields from Targets Irradiated by 2.0 and 2.5 GeV Electrons**

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At last SATIF7, the differential photo-neutron yields at 48, 90, and 140 degrees relative to the incident 2.0 GeV electrons were presented. The photo-neutron spectra were measured by the pulsed beam time-of-flight technique with Pilot-U plastic scintillator and the NE213 liquid scintillator with 2-inch in length and 2-inch in diameter. Targets, from low-Z element (Carbon) to high-Z element (Bismuth) and with thin (0.5 Xo) and thick (10 Xo) thickness, were used on those study. The differential photo-neutron yields between 2 MeV (Mainly 8 MeV) and 400 MeV and the systematics study were informed

In this paper, the revised data though the new efficiency calculation using SCINFUL-QMD are presented. The new efficiency has improved the accuracy at the high energy range. In addition, the photo-neutron yields of Fe and Mo targets were measured for 90 degree data set.. The improved results of TOF measurements at 48 and 140 degrees are presented. The benchmark simulations using well-known Monte Carlo codes have carried out: MCNPX-2.5, MAR-15, and FLUKA-2005. Those benchmark comparisons give us a meaningful approach for a photonuclear reaction study.