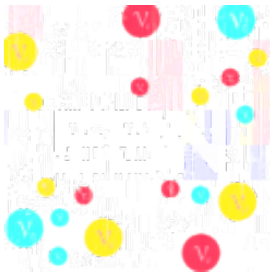

Contribution ID: **25** Type: **Poster**

Impact of the Surface Density of ParaTerphenyl Films on the Vacuum Ultra Violet Light Conversion Efficiency

This work investigates the vacuum ultraviolet (VUV) light conversion efficiency of para-Terphenyl (PTP) thin films, focusing on the influence of film thickness and surface characteristics. The PTP films were deposited onto glass substrates or dichroic filters using thermal vacuum evaporation at the Leptons Laboratory of the University of Campinas (UNICAMP). The spatial arrangement of the substrates inside the deposition chamber was designed to produce different surface densities, with substrates closer to the center exhibiting higher mass deposition. Surface density was determined through precise mass measurements before and after deposition.

Conversion efficiency was evaluated using a vacuum monochromator coupled to a deuterium lamp, emitting a broad-spectrum irradiance from 120 to 400 nm. All measurements were normalized to a reference sample. Structural and morphological analyses were also carried out using techniques such as profilometry and optical microscopy. The goal is to understand how film thickness and surface morphology affect the VUV-to-visible light conversion efficiency in PTP films.

Author: PAGLIUSO, Lucca (Unicamp)

Co-authors: BERGAMINI MACHADO, Ana Amelia (Universidade Estadual de Campinas (UNICAMP)); SEGRETO, Ettore (Universidade Estadual de Campinas (UNICAMP))

Presenter: PAGLIUSO, Lucca (Unicamp)