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Measurement of the Photoelectron Yield from the Synchrotron Radiation for the NEG-coated Tubes

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NEG-coated chambers have been adopted as the beam ducts for large particle accelerators and synchrotron light sources for the sake of the lower yields of the photon stimulated desorption (PSD) and the photoelectrons (PE) from the NEG films in addition to their pumping performance. Measurement of the photoelectron yield (PEY) was performed at the BL19B (PSD) beamline of the 1.5 GeV Taiwan Light Source (TLS) which simultaneously measures the PSD-yield. An aluminium cathode was inserted in the tubes and a positive bias of voltage for extraction of the photoelectrons applied. The PEY was obtained by dividing the photoelectron current by the photon flux of the synchrotron radiation. Measurements of the PEY include various types of NEG-coated stainless steel tubes and the bare tubes of titanium and aluminium alloys for the comparison. The experimental system and the results will be described in this presentation.

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Footnotes

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