

Abstract Submitted
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Introduction to Time of Flight Positron Annihilation Induced Auger Spectroscopy (TOF-PAES)¹ PRASAD JOGLEKAR, SUSHANT KALASKAR, KARTHIK SHASTRY, SUMAN SATYAL, ALEX WEISS², Department of Physics, U T Arlington — Time of flight- positron annihilation induced auger electron spectroscopy (TOF-PAES) is extremely surface selective with close to 95% of the PAES signal stemming from the top-most atomic layer. In PAES, a beam of low energy (1eV – 25eV) positrons is made incident on a surface where they become trapped in an image potential well. A fraction (up to several percent) of the positrons in the surface state annihilate with the core electrons of atoms at the surface resulting in core-holes. Electrons in higher levels can fill these core-hole via an Auger transition in which the energy associated with this filling the core hole is transferred to another electron which can leave the atom and the surface. The energy of the outgoing (Auger) electrons is characteristic of the energy levels of the atom and can be used to identify the specific element taking part in the transition. In this talk I will present a brief review of how the TOF PAES technique can be used to obtain Auger spectra that is completely free of secondary electron background.

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