Abstract Submitted
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Design and building of new spin polarized Positron Annihilation Induced Auger Electron Spectrometer[1] ZHENG HUI LIM, MICHAEL MISHLER, PRASAD JOGLEKAR, KARTHIK SHASTRY, ALI KOYMEN, SURESH SHARMA, ALEXANDER WEISS, Univ of Texas, Arlington — We propose to develop a next generation high flux variable energy spin-polarized position beam facility for materials studies. This new system will have a higher efficiency than our current system, and it will also be the first in the world to combine spin polarization with a time of flight Positron Annihilation induced Auger Electron Spectroscopy (PAES). The spin polarized positrons are electromagnetically guided towards the sample with an axial magnetic field and perpendicular electric fields. These incident positrons get annihilated at the surface of the sample creating two gamma rays and auger electrons via Auger transitions. These signals are useful in characterizing material surface, surface magnetization, and energy sharing in valence band. This new spectrometer, which is currently under construction, will be a next generation positron system.

[1]NSF

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