

CEDT SUMMER SEMINAR SERIES: Positron Annihilation Study of Defect Dynamics in Si/SiO₂ MOS Structures and Development of the Intense Positron Beam

Thursday, June 25th, 2026

11:00 A.M. - 12:00 P.M.

In-Person: JHE 326H

Positron annihilation spectroscopy provides a sensitive probe of vacancy-type defects, open-volume structures, and charge-state effects in semiconductor materials. In metal-oxide-semiconductor (MOS) structures, slow positron Doppler broadening measurements can be combined with electrical bias to investigate defect behavior near the oxide/semiconductor interface. Basic principles of positron implantation, diffusion, and annihilation will be introduced, followed by recent bias-modulated measurements on MOS samples. A brief update on the development of an intense positron beam will also be presented.



Engineering Physics

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A Ph.D. candidate in the department of engineering physics, research focus on characterization of defects in MOS structure by using positron annihilation spectroscopy



Refreshments Provided