

Abstract Submitted
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Development of a Slow Positron Facility at Hebrew University of Jerusalem AIDAN KELLEHER, Hebrew University of Jerusalem — Positron annihilation spectroscopy provides both depth of penetration to study bulk defects in materials as well as nano-scale resolution. This measurement range is achieved by slowing positrons from a radioactive source, typically ^{22}Na , by sending them through a moderator, typically W or solid Ne. The nearly thermal positrons are then accelerated to the desired energy by means of an electrostatic potential. The SPOT project at The Hebrew University of Jerusalem proposes to increase the luminosity of the beam by applying the best practices currently in us, as well as using a short-lived source of positrons, ^{18}F . Simulations based on our current designs indicate this project will be able to deliver positrons in the energy range of 50-50000eV with an energy resolution of 1eV is possible. We will present the unique technical challenges of using this source of positrons, how we plan to overcome them, the results of simulations, and facility construction progress.

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