Abstract Submitted
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Dark Optical Traps for β-Decay Studies GUY RON, Lawrence Berkeley National Lab — Magneto-Optical Traps (MOTs) have for many years been the workhorse of β decay studies using trapped radioactive atoms. These MOTs allow to study the β decay of atoms at extremely low temperatures and high vacuum, allowing for a precise extraction of the β decay correlation coefficients. MOTs, however, are unsuited for measurements of polarization correlation coefficients since they do not allow the trapped atoms to be easily polarized. Furthermore, the high photon scattering rate in a MOT may introduce population dependent corrections, such as, for example, from molecular dimer production. The LBL atom trapping group is developing two new optically dark traps, based on work done by Davidson *et al.*, in which the trapped sample will be confined to a dark region bounded by blue detuned laser light. The concept and status of these traps will be presented and the benefits of using such a trap will be discussed.

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