

Abstract Submitted
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Thermal Annealing in Calorimetry for Super Bigbite SEAMUS RIORDAN, State Univ of NY- Stony Brook, BOGDAN WOJTSEKHOWSKI, MARK JONES, Thomas Jefferson National Accelerator Facility, ALBERT SHAHINYAN, Yerevan Physics Institute — Radiation damage to lead glass in the form of optical darkening presents a serious challenge to electromagnetic calorimetry for modern high-luminosity experiments in an open environment. In particular, the Super Bigbite G_E^p measurement to $Q^2 = 12 \text{ GeV}^2$ using ep scattering at Jefferson Lab relies heavily on calorimetry in such an environment for elastic electron event triggering and event reconstruction. The novel technique of thermal annealing to maintain continuous optical transparency of the lead glass calorimeter blocks has been chosen to remedy this effect. An overview of the technical design considerations for such a calorimeter and results regarding the construction of smaller-scale prototypes will be presented.

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