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Neutron Interactions With ⁷Be and the Primordial ⁷Li Problem¹ EMILY E. KADING, MOSHE GAI, University of Connecticut, MERAV KAHN, MORIT LEE, MOSHE TESSLER, MICHAEL PAUL, Hebrew University, ARYEH WEISS, Bar Ilan/HU, DAN BERKOVITZ, SHLOMI HALFON, DANNY KI-JEL, ARIK KREISEL, ASHER SHOR, IDO SILVERMAN, LEONID WEISS-MAN, Soreq NRC, MICHAEL HASS, ISH MUKUL, Weizmann Inst., EMILIO A. MAUGERI, RUGARD DRESSLER, DOROTHEA SCHUMANN, STEPHAN HEINITZ, Paul Scherrer Inst., THIERRY STORA, ISOLDE/CERN, DAVID TICE-HURST, CALVIN R. HOWELL, TUNL at Duke — We study the interaction of neutrons with ⁷Be to estimate the direct destruction of ⁷Be during BBN; i.e. the predicted primordial ⁷Li. We plan to use a ⁷Be target (15 GBq) prepared by electrodeposition at PSI. The intense neutron flux of up to 5×10^{10} n/sec/cm² are produced with proton beams and a high power liquid-lithium target (LiLiT) from the SARAF (phase I) facility in Israel. The outgoing particles will be measured using CR-39 plates that were tested to be insensitive to the large neutron flux and were calibrated with protons and alpha-particles from the TUNL. In a separate stage implanted ⁷Be target will be prepared at the ISOLDE facility of CERN. The results of the calibration of the CR-39 plates and the test experiment at SARAF with ¹⁰B target as well as a very low activity ⁷Be test target prepared at PSI, will be presented.

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