

Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

A Measurement of the Interaction of Neutrons With ${}^7\text{Be}$ at Cosmological Energies¹ E.E. KADING, M. GAI, University of Connecticut, T. PALCHAN, M. PAUL, M. TESSLER, Hebrew U, Jerusalem, A. WEISS, Hebrew U, Jerusalem/ Bar Ilan, D. BERKOVITS, SH. HALFON, D. KIJEL, A. KREISEL, A. SHOR, I. SILVERMAN, L. WEISSMAN, Soreq, Israel, R. DRESSLER, S. HEINITZ, E.A. MAUGERI, D. SCHUMANN, PSI, Switzerland, M. HASS, I. MUKUL, Y. SHACHAR, Weizmann Inst., Israel, CH, SEIFFERT, TH. STORA, CERN/ISOLDE, D. TICEHURST, TUNL/Duke, C.R. HOWELL, howell@tunl.duke.edu, N. KIVEL, PSI, Switzerland — We exposed the 4.4 GBq electroplated ${}^7\text{Be}$ target prepared at the Paul Scherrer Institute in Switzerland to the high neutrons flux of 5×10^{10} /sec/cm² generated by the LiLiT at the Soreq Applied Research Accelerator Facility (SARAF) in Israel. The so produced quasi-Maxwellian neutron spectrum with an equivalent $kT = 49.2$ keV simulate directly BBN conditions with $T = 700 - 500$ MK ($kT = 60 - 43$ keV), allowing the first measurement at Big Bang energies. The measured alpha-particles emanating from all possible ${}^8\text{Be}$ states populated in the ${}^7\text{Be}(n,\alpha)$ and ${}^7\text{Be}(n,\gamma\alpha)$ reaction, detected with a CR39 plastic track detectors, will be shown and discussed.

¹This material is based upon work supported by the U.S Israel Binational Science Foundation, under award number 2012098 and the US. Department of Energy, Office of Science, Office of Nuclear Physics, under Award Number DE-FG02-94ER40870

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Date submitted: 30 Jun 2016

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