

Abstract Submitted  
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**Improved signal-to-background utilizing coincidence counting of charged-particle tracks in CR-39** S. VOLKMER, F.H. SEGUIN, J.A. FRENJE, C.K. LI, J.R. RYGG, R.D. PETRASSO, MIT, T.C. SANGSTER, V.YU. GLEBOV, D.D. MEYERHOFER, C. STOEKL, LLE — CR-39 has proven invaluable for diagnosing implosions due to its EMP-insensitivity and compactness, but it is slightly sensitive to neutrons. While not a problem for many conventional nuclear diagnostics at OMEGA, this has to be dealt with for the Magnetic Recoil Spectrometer (MRS) and the Neutron Wedge Spectrometer that are currently being developed at OMEGA, and the MRS at the NIF. Orders-of-magnitude increased rejection of neutron induced events can be accomplished by performing coincidence counting of tracks on the front and back sides of CR-39: Since only signal protons will leave spatially coincident pairs of tracks on both sides of the CR-39, neutron-induced tracks can be discarded. We propose to develop this coincidence counting technique to lower the background level in CR-39 neutron spectrometry data. This poster will present the current status of this project. This work was supported in part by LLE, LLNL, the U.S. DoE, the Univ. of Rochester, and the N.Y. State Energy Research and Development Authority.

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