

Abstract Submitted  
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**Advanced Characterization and Simulation of SONNE - a Fast Neutron Spectrometer for the Solar Probe Plus Mission** RICHARD WOOLF, JAMES RYAN, PETER BLOSER, ULISSE BRAVAR, University of New Hampshire, ERWIN FLUECKIGER, University of Bern, PROCHETA MALLIK, University of Glasgow, MARK MCCONNELL, University of New Hampshire, ALEXANDER MACKINNON, University of Glasgow, BENOIT PIRARD, University of Bern, UNIVERSITY OF NEW HAMPSHIRE TEAM, UNIVERSITY OF BERN COLLABORATION, UNIVERSITY OF GLASGOW COLLABORATION — An important goal in solar physics is the measurement of neutrons in the 1-20 MeV range – the surest indication of low energy ion acceleration in the low corona. Detection of these particles is key for understanding particle acceleration as a whole. Solar neutron measurements in this range could also have the great discovery potential of the postulated nanoflares – possibly a significant agent for heating the solar corona. Neutrons in this energy range suffer from decay and range out prior to 1AU, measurements aboard the Solar Probe Plus mission to the inner heliosphere are needed. We report on the technical status of the ongoing characterization and simulation efforts of the Solar Neutron Experiment (SONNE) - a fast neutron imaging spectrometer with sensitivity to neutrons in the 1-20 MeV range. Results from a limited laboratory prototype and GEANT4 simulations will be presented.

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