Abstract Submitted
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Mini-LENS: developing a charged-current approach to measuring CNO and pp solar neutrinos[1] R. BRUCE VOGELAAR, Virginia Tech , LENS COLLABORATION — The Low-Energy Neutrino Spectroscopy (LENS) experiment is based on neutrino detection via a charged-current interaction with ^{115}In and offers the ability to cleanly observe both pp and CNO neutrinos. In contrast, elastic-scattering detectors, such as Borexino and SNO+ suffer from virtually inseparable backgrounds. Thus, LENS might be uniquely positioned to resolve the solar metallicity question via measurement of the CNO neutrino flux, as well as test the predicted equivalence of solar luminosity as measured by photons versus neutrinos The mini-LENS program is testing the performance of the optically-segmented 3D lattice geometry unique to LENS. This first-of-a-kind lattice design is also suited for a range of other applications where high segmentation and large light collection are required (eg: sterile neutrinos with sources, double beta decay, and surface detection of reactor neutrinos). The current status and recent design changes of miniLENS at KURF will be presented.

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