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Preliminary results from Mississippi State Axion Search[1] PRAJWAL MOHANMURTHY[2], ROBERTSEN RIEHLE, DIPANGKAR DUTTA, Mississippi State University, MASS COLLABORATION — Mississippi State Axion Search is an exotic particle search experiment using a novel light shining through a wall technique. The experimental setup consists of two tuned vacuum cavities placed under a very strong magnetic field and separated by a wall. While one of the cavities houses a strong EM field generator, the other (dark) cavity houses the detector systems. The electronics consists of multi-stage amplifier system, each based on $SR-510$ lock in amplifiers and $PCI-D$ high speed data cards. The experiment is scheduled to run up to April 2013. The theory leading up to light axions will be previewed highlighting different experimental approaches to search for axions which spans 8 orders of magnitude in mass and a wide plethora of experiments investigating each approach, with their results, will be discussed. Projected sensitivity of MASS for light axions and para-photons besides certain other candidate dark matter particles will be illustrated showing its impact on a wider scale amongst other low cost axion search experiments. Results from the systematics and background studies will be presented.

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[2]Spokesperson

Prajwal Mohanmurthy
Mississippi State University

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