

Abstract Submitted  
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**High Harmonic mixing in Solid Argon** GEORGES NDABASHIMIYE, Stanford University, SHAMBHU GHIMIRE, Stanford PULSE Institute, SLAC National Accelerator Lab, DAVID REIS, Applied Physics, Stanford University, Stanford PLUSE Institute, SLAC National Accelerator Lab, REIS LAB TEAM — We measure high harmonics of 800 nm and 1333 nm fundamental radiation in thin solid argon films. The thickness dependence of the above gap harmonics shows evidence for nonlinear mixing between low and high orders. In particular the thickness dependences show similar length scales suggesting that they originate from the phase mismatch of the third harmonic. However, in some cases, a substantial offset for the maxima of harmonic intensity is seen as a function of thickness. A big shift between consecutive harmonics could indicate the onset of new processes contributing to the harmonic generation.

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