

Abstract Submitted  
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**High-pressure Processing of Hyper-doped Silicon** DAN WEISZ,  
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States Air Force Academy — We report the successful processing and characteriza-  
tion of silicon hyper-doped with sulfur using a nanosecond-pulsed laser in the pres-  
ence of sulfur hexafluoride at pressures greater than one atmosphere. Microstruc-  
tures on the surface formed during the high-pressure processing require less energy  
to form yet contain comparable sulfur content as samples processed at one atmo-  
sphere. These structures exhibit enhanced short-infrared absorption, a property of  
interest for solar cell and infrared detection applications.

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