

Abstract Submitted  
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**Single and Multi-Photon X-Ray Diffraction** DMITRY PANIN, University of Utah — This project utilized the use of an X-ray detector apparatus to study the low-intensity crystal diffraction patterns for a range of wavelengths between 50 and 150 picometers. The purpose was to determine whether or not single photon diffraction is possible. The possible application of such technology can be employed in x-ray or nanometer scale photolithography techniques. The results have shown that a single photon can indeed interact with itself and therefore two or more sources are not needed for diffraction to occur and one source photon at a time is sufficient.

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