

Abstract Submitted
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Measurement of the Spectrum of the Down Converted Photons created in Type I SPDC COURTNEY LEMON, GINA LABRIOLA, CLINT HAWKINS, ERIC SOSA, MARC PEARSON, NINA ABRAMZON, BARBARA HOELING, California State Polytechnic University, Pomona — Spontaneous parametric down conversion is an important process in quantum optics, in which blue photons of a high-intensity laser beam are converted into pairs of lower energy infrared photons inside a non-linear optical crystal. Our goal is to measure the wavelength spectrum of these photons using a single photon counting module and a high resolution optical emission spectrometer. A preliminary step towards merging these two systems is to find out the minimum photon flux required to achieve an adequate signal to noise ratio with the spectrometer. Additionally, we need to determine how much signal is lost in the proposed connector between the two setups. We will present our findings from the characterization of the spectrometer, as well as dark counts from the single photon detector and measurements of the polarization properties of the down-converted photons. We will discuss how we plan to determine the wavelength spectrum of the down-converted photons.

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