

Abstract Submitted  
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**Wavelength tuning by means of a temperature gradient in periodically poled lithium niobate** JASON KRAMB, PETER POWERS, University of Dayton — Nonlinear frequency conversion in periodically poled lithium niobate (PPLN) is controlled by the periodicity of the poled structure and by the crystal temperature. Crystals with multiple poled regions and crystals with a continuous periodicity change (fan-out design) can achieve rapid tuning. Changing the crystal temperature also results in tuning, however this is relatively slow for large temperature changes. Another approach, which has not yet been demonstrated, is tuning by means of a temperature gradient. This talk will show the results of such a temperature-gradient tuned PPLN device. In particular we will discuss the change in efficiency of the PPLN device and changes in the output beam profile when a temperature gradient is applied to the crystal.

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