

Abstract Submitted
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Nonlinear UV Laser Build-up Cavity: An Efficient Design

NICHOLAS RADY — Using the concept of the build-up cavity for second harmonic generation to produce 243nm tunable laser light, an innovative cavity is theoretically explored using a 15mm length CLBO crystal. In order to limit the losses of the cavity, the number of effective optical surfaces is kept to only four and the use of a MgF2 crystal is adopted to separate the harmonic and fundamental laser beam from each other. The cavity is shown to have an expected round trip loss of five tenths of a percent or better, resulting in a conversion efficiency greater than 65%.

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