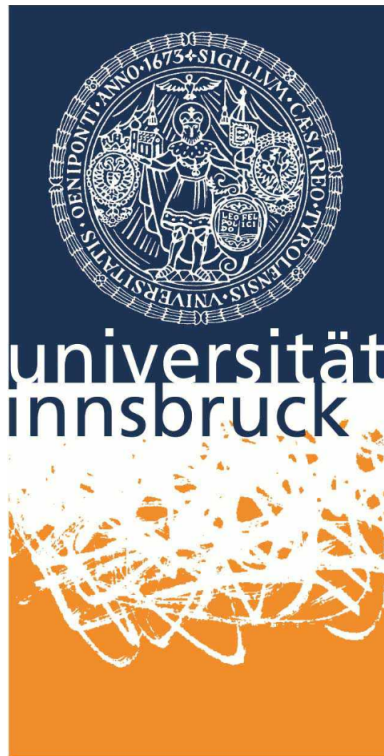


Advanced laboratory class 2

## **FP2 - Nonlinear Optics - Second Harmonic Generation**

Marco CANTERI  
marco.canteri@student.uibk.ac.at

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## Abstract

In this work we generated ultraviolet light at around 317 nm from a laser beam of 633 nm exploiting Second Harmonic Generation (SHG), a second order non linear effect of a pottassium dihydrogen phospahte (KDP) crystal. We measured the power of the red laser as a function of the angle of a polarizer, then we studied the efficiency of the SHG with respect to the crystal angle.

## 1 Introduction

Non linear optics bla bla bla

## 2 Experiment setup

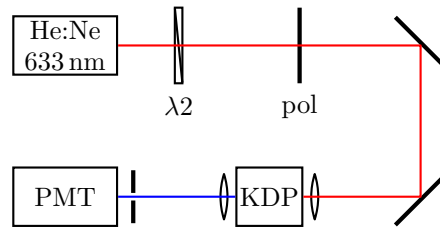


Figure 1: Experiment setup. A red laser is pumped into a KDP crystal to generate ultraviolet light at 317 nm (showed in blue in this figure) detected with a photomultiplier

## 3 Measurements and analysis

## References

- [1] J. BELL, *On the Einstein Podolsky Rosen paradox*, Physics, 1 (1964), pp. 195–200.
- [2] J. F. CLAUSER, M. A. HORNE, A. SHIMONY UND R. A. HOLT, *Proposed experiment to test local hidden-variable theories*, Phys. Rev. Lett., 23 (1969), pp. 880–884.
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