

Nonlinear Optics 2024 — Homework 5

Due Wednesday, April 10, 2024

Second harmonic generation type II

The purpose of this homework is to gain some familiarity with the SNLO program of Arlee Smith.

Objective: achieving *shortest* second harmonic pulse with optimal efficiency.

Crystal: KDP

Length between 5 and 8 cm (select).

Fundamental pulse: 1.064 μm , 150 mJ, pulse duration 14 ps.

The total pulse energy is divided along the ordinary and extraordinary components by a half wave plate.

The ordinary and extraordinary fundamentals are given a delay relative to each other.