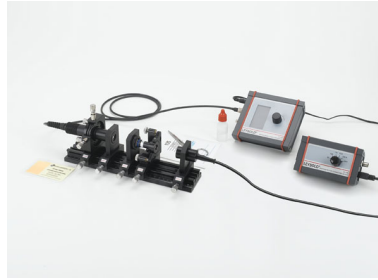


## Emission & absorption / Optical pumping

Numero P5.8.5.3



### Descrizione

The experiment P5.8.5.3 introduces to optical pumping as well as emission and absorption. Due to the pumping process spontaneous and stimulated emission is generated. The emission is temporarily as well spectroscopical measured and analyzed. The tuning of the emission wavelength of the pump diode laser due to the temperature allows the recording of the absorption spectrum. From the timely decay of the fluorescence light the lifetime of the excited state is measured and the Einstein coefficient for stimulated emission calculated.

### Dispositivi

Richiesto	Dispositivo
0/1	Collimating optics on carrier, aspherical
0/1	Focussing Optics, $f = 60$ mm
0/1	Crystal in holder Nd:YAG 1064 nm
0/1	Laser Mirror Adjustment Holder, left
0/1	Spatial filter with adjustable iris
0/1	Crossed Hair Target in C25 mount
0/1	Filter infrared
0/1	Filter Plate Holder
0/1	IR converter screen 800 - 1400 nm
0/1	Photodetector signal conditioning box
0/1	SiPIN photodetector
0/1	Digital multimeter 3340
0/1	Screened cable, BNC/4 mm Plug
0/1	Controller for Diode Laser
0/1	Single Mode Diode Laser Head with Adjust
0/1	Profile rail 500 mm
0/1	Optics cleaning set
0/1	Ethanol, absolute, 250 ml
0/1	Transport and Storage Box #01
0/1	LIT-print: Emission & Absorption/Opt. Pumping
(0/1)	Digital storage oscilloscope 70 MHz
(0/2)	HF-Cable, BNC-BNC, 1.5 m
(0/2)	Laser safety goggles 808 and 1064nm