Project title: Studies of iodine vapor excited with a green laser pointer

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Abstract

This research study aims to explore an optically pumped iodine vapor using green lasers with wavelength 532 nm in the aspect of the fluorescence and mirrorless laser emissions.

The fluorescence emission in the visible region was observed with a low power laser pointer. Several spectral lines were recorded with a USB spectrometer. The obtained spectral emission can be served as the references for spectrometer calibrations.

Furthermore, this research explores the mirrorless lasing behavior of the iodine vapor pumped by high power green laser in the range between 10 mW and 70 mW. The power threshold of 10 mW was achieved suggesting the promising candidate for the optical beam combiner technology. With simplicity and spectra richness, iodine vapor has an optimistic future to be used as the pumping source for various applications.