

Abstract Submitted  
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**A robust, inexpensive wavelength meter using a commercial color sensors**<sup>1</sup> TYLER JONES, NILS OTTERSTROM, JAROM JACKSON, JAMES ARCHIBALD, DALLIN DURFEE, Brigham Young University — Commercial color sensor chips are used in a variety of consumer electronics. Many are built to specifications far above those needed for their typical uses, some having temperature coefficients of only a few parts per million, and using precision 16 bit analog to digital converters. Using such a device, we were able to measure the wavelength of a laser with a precision of 0.01 nm with a calibration drift of similar magnitude over several days. Factors that influence the precision and accuracy, such as etalon effects in the sensor, temperature dependence, intensity variations, and timing, will be discussed.

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