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Precision Measurement of Laser Wavelength Using an RGB Sensor Common in Consumer Electronics TYLER JONES, NILS OTTERSTROM, JAROM JACKSON, JAMES ARCHIBALD, DALLIN DURFEE, Brigham Young University — RGB sensors in consumer electronics are built to function at standards far above those needed for their typical uses. For one such sensor, the data sheet lists a 16 bit ADC and indicates that it has a temperature coefficient of only a few parts per million. These high specifications indicate that the sensors can be used in other applications, such as laser spectroscopy. Device Precision of 0.05 nm is demonstrated. Factors that influence the precision, such as etalon effects in the sensor, temperature dependence, intensity variations, and time dependence will be discussed. Funding from Brigham Young University and the National Science Foundation.

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