

Abstract Submitted  
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**Investigating and manipulating color centers in yttrium aluminum garnets**<sup>1</sup> CHRIS VARNEY, AUTUMN PRATT, FARIDA SELIM, Department of Physics and Astronomy, Washington State University — Rare-earth-doped yttrium aluminum garnets (YAG) are important photonic materials with numerous applications in many fields such as lasers, phosphors, and scintillators. Color centers forming from point defects and impurities play a significant role on the optical properties of YAG crystals. In this work, color centers in undoped and RE doped YAG crystals were identified by absorption measurements in the UV-VIS-NIR range. Photo- and radio-luminescence measurements were carried out to study their emission. Growth atmosphere, annealing and UV excitation were utilized to alter the charge state of color centers and manipulate their absorption and luminescence characteristics.

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