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Optical Reflection Study of Low-Dimensional Quantum Magnets¹ JUDY CHERIAN, National High Magnetic Field Laboratory; Dept. of Physics, Florida State University, TAKAHISA TOKUMOTO, National High Magnetic Field Laboratory, HAIDONG ZHOU, National High Magnetic Field Laboratory; Dept. of Physics, University of Tennessee, STEPHEN MCGILL, National High Magnetic Field Laboratory — We performed a linear optical reflection analysis of a lowdimensional, frustrated quantum magnet. Strongly-correlated low-dimensional systems are important for understanding spin-excitations, which form an important class of low-energy phenomena. Of particular interest are how these spin excitations arise and are then tuned by the environment (e.g. temperature, applied magnetic field). The temperature dependence of the reflection spectra from 215 K down to 4 K was measured. Magnetic field dependence of the reflection spectra from 0 T to 35 T was also measured. We will discuss the behavior of the reflection edge with temperature and magnetic field and its correlation with spin excitations.

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