

Abstract Submitted
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Magnetochromism in the Quasi-2D Heisenberg Antiferromagnet, $K_2V_3O_8$ R.C. RAI, J. CAO, J.L. MUSFELDT, University of Tennessee, B.C. SALES, D. MANDRUS, Oak Ridge National Laboratory, X. WEI, National High Magnetic Field Laboratory — We present the optical and magneto-optical properties (0 - 32 T) of the $S = 1/2$ quasi-two-dimensional Heisenberg antiferromagnet, $K_2V_3O_8$. A large magnetochromic effect, centered at ~ 2.6 eV, is observed at 4.2 K, and it is attributed to a change in the V^{4+} on-site excitation. An additional very sharp magneto-optical feature near ~ 1.2 eV may be associated with a vibronic excitation. Fine structure allows us to identify the coupling phonon. These field-induced color changes point toward a 12 T transition involving local distortions.

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