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MicroRaman study of orbitonphonon coupling in YbVO₃ BENOIT ROBERGE, SERGE JANDL, Université de Sherbrooke, THOMAS T.M PALSTRA, A.A. NUGROHO, University of Groningen — Owing to their strong electron correlation, transition-metal oxides with perovskite related structures display a variety of interesting properties such as Mott transition, high- T_c superconductivity and colossal magnetoresistance. YbVO₃ belong to this family and exhibits magnetic and orbital orderings at low temperatures. In this communication, we present a study of its first order and multiphonon Raman active excitations as a function of temperature. Impact of various orbital, magnetic and structural transitions is analyzed and possibilities of orbiton-phonon coupling in the observed phonon combinations around 1400 cm⁻¹ are discussed.

Benoit Roberge
Université de Sherbrooke

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