Magnetic interactions and orbital physics in RVO₃ perovskites J.-Q. YAN, Ames Laboratory, Ames, IA 50011, S. CHANG, C. BROWN, NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland 20899, M. HEHLEN, F. TROUW, LANSCE, Los Alamos National Laboratory, Los Alamos, NM 87545, R.J. MCQUEENEY, Ames Laboratory and Department of Physics and Astronomy, Iowa State University, Ames, IA 50011 — We have performed inelastic neutron scattering study on high quality YVO₃ and LaVO₃ powders. The magnetic interactions determined from the scattering spectra for YVO₃ agree with a previous single crystal study. [1] For LaVO₃, a \( \langle J_a \rangle > \langle J_c \rangle \) is in sharp contrast to the \( \langle J_c \rangle > \langle J_a \rangle \) in the C-type magnetically (C-AF) ordered state of YVO₃. The mechanism that greatly suppresses \( \langle J_a \rangle \) in C-AF state of YVO₃ will be discussed together with thermal conductivity [2] and Raman spectroscopy [3] results.