

Hot Jupiters and Cool Stars Beware: A new TiO line list is here

Laura McKemmish,¹ University of New South Wales

A new ExoMol style line list for TiO is presented and compared against existing linelists for mid to high resolution astronomical spectroscopy. This linelist has been fitted against a large number of empirical experimental energies obtained using the MARVEL (Measured Active RoVibrational Energy Levels) program using the variational nuclear motion code Duo which enables treatment of coupled electronic states for diatomic molecules. Potential extensions of this methodology to systems like ZrO and OH are discussed.

¹laura.mckemmish@gmail.com