

Highlights from the TRES Spectrograph

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The Tillinghast Reflector Echelle Spectrograph (TRES) is on the 1.5m Tillinghast Reflector at the Fred Lawrence Whipple Observatory (FLWO) located atop Mt. Hopkins in Arizona, USA. TRES is a fiber fed echelle spectrograph spanning the spectral range 3900–9100 Angstroms. It has a modest resolving power of $R=44,000$ but is a workhorse for exoplanet science. TRES is capable of achieving 10 m/s radial velocity precision and benefits from about two-thirds of the month on the sky with flexible observing scheduling. This enables strategic planning of observations of planet candidates at quadratures to determine velocity variation and rule out false positives more efficiently. It is difficult to determine precise radial velocities of hot stars with few spectral lines and fast rotating stars with broadened spectral features, and these planet candidates are often avoided by spectrographs, but using tools developed by Lars Buchhave and George Zhou we have begun to probe that parameter space. I will present some highlights from the TRES spectrograph.

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