Science & Operations Updates from the NEID Solar Telescope

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Recent EPRV initiatives to investigate activity-driven RV variations by observing the Sun-as-a-star have led to the proliferation of small solar telescopes attached to precision RV spectrographs. Among these instruments is the NEID solar feed, which has collected a rich dataset of over 100,000 solar spectra to date. We present current efforts to investigate activity-driven RV variations using NEID solar data, including line-by-line RV correlations and a comparison of activity mitigation strategies. We also compare results from the NEID Data Reduction Pipeline (DRP) against the Penn State Research Pipeline (PSRP), which is based on the RvSpectML ecosystem for measuring RVs and stellar variability indicators from extracted spectra. Finally, we present technical insights that we have learned from the first 18 months of NEID solar operations and an update on the current status of the solar feed since the recent NEID restart.