



Establishing High-Fidelity Stellar Data Sets that Isolate Individual Sources of Variability

Mission Statement/Goals

The unprecedented precision and stability of EPRV era spectrographs offer unique new probes of stellar variability. This splinter session will give the community a space to strategically determine the ideal targets, data sets, and collaborations necessary for deliberate studies of stellar variability. Specifically, we will highlight the benefits to be gained from coordinating between telescopes/instrument teams and establish a shared list of touchstone variability targets beyond existing Standard Star targets.

Driving Question:

What *stellar* data sets will allow the community to produce the largest advances in probing stellar variability, developing variability diagnostics, and assessing mitigation techniques, and how can we facilitate cooperation among instrument teams to build up these data sets?

Anticipated Splinter Session Outcomes:

- Use community input to begin an initial list of stars that are worth observing for the goal of studying stellar signals (ones where the stellar or planetary signals are already well-studied, beginning to be studied, more easily studied, etc.)
- Begin a formal collaboration/Working Group to continue discussion and coordinate further on the list of stars and writing a white paper
- (Longer term) write a white paper that establishes the need for Stellar Variability Touchstones and the important role for the EPRV community in the future.

Session Format

Introductory Talks (20 minutes)

Sources & Timescales of Variability — Belinda Nicholson

Lessons from Solar Data — Lily Zhao

What Can Standard Stars Offer? — Jenn Burt

What More Do We Need? — Jacob Luhn

Group Discussion (70 minutes)

What should stellar variability data sets capture?

What targets should we prioritize?

What is our best approach?

What have we missed?