Web Applications for Subaru/PFS Observation Planning

Masato Onodera, Wanqiu He, Kiyoto Yabe, Yuki Moritani, Yuhei Takagi, Miho Ishigaki, Tae-Soo Pyo, Masayuki Tanaka, Naoyuki Tamura, and PFS obsproc working group (NAOJ)

PFS Spectral Simulator

The PFS Spectral Simulator is a web application to simulate PFS spectra. The simulation is carried out by the PFS exposure time calculator and spectrum simulator.

Input parameters

- Target: The **Input spectrum** is a pre-configured template (constant, stars, galaxies, and quasars) or a user-defined spectrum. **Emission lines** can be added. The apparent **size** can be configured and a **Galactic extinction** can also be added.
- Condition: **Seeing** FWHM, **degradation factor**, and **moon** parameters (zenith angle, target separation, and phase) can be configured.
- Instrument: **Exposure time** and **number of exposures** can be set. One can choose the location of the fiber within the PFS FoV and the **medium-resolution mode** in the red channel. Note that the throughput model is still tentative and we will keep updating it by analyzing engineering data.
- Telescope: The zenith angle of the telescope can be configured.

Outputs

- Simulated spectrum and related information (e.g., S/N, errors, sky flux) can be downloaded in ECSV and FITS formats.
- **Interactive plots** for each arm are displayed. One can check the simulated spectrum visually within the app.

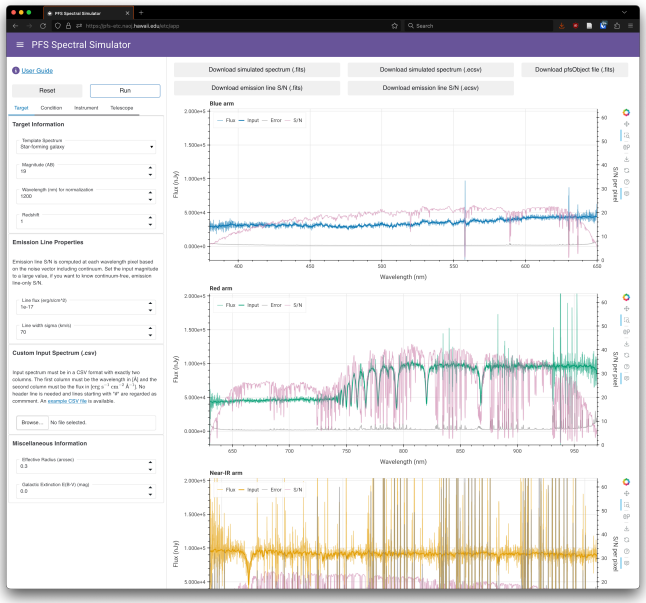

Figure 1. A screenshot of the PSF Spectral Simulator showing simulated PFS spectra in three arms (blue, red, and near-IR from top to bottom) with the default parameters for a star-forming galaxy with J~19 mag at z=1 for 1 hour exposure.

Visit: https://pfs-etc.naoj.hawaii.edu/etc

Any feedback would be greatly appreciated

PFS Target Uploader

The PFS Target Uploader is a web application to validate and submit the target list for open use PFS observations with an observing time estimate by a pointing simulation. The application has 3 operations:

Validate

- A user-supplied target list will be checked against the requirements of the observatory.
- A summary of the list and the status of the validation are displayed in the sidebar. The details of the validation are shown in the main panel.

Simulate

- **A PFS observation is simulated** by the PFS Pointing Planner (P08).
- Results will be shown in the main panel. The summary of the observations will be listed, while tables and plots will show the detailed fiber allocation results.
- **The sliders** above the table allow users to **interactively adjust the number of pointings** to be used for the program.
- **The requested observing time** can be put in the proposal form.

Submit

- By clicking the “Submit” button, the target list and simulation results will be sent to the observatory.
- An **Upload ID** will be issued and **required for the proposal submission**.

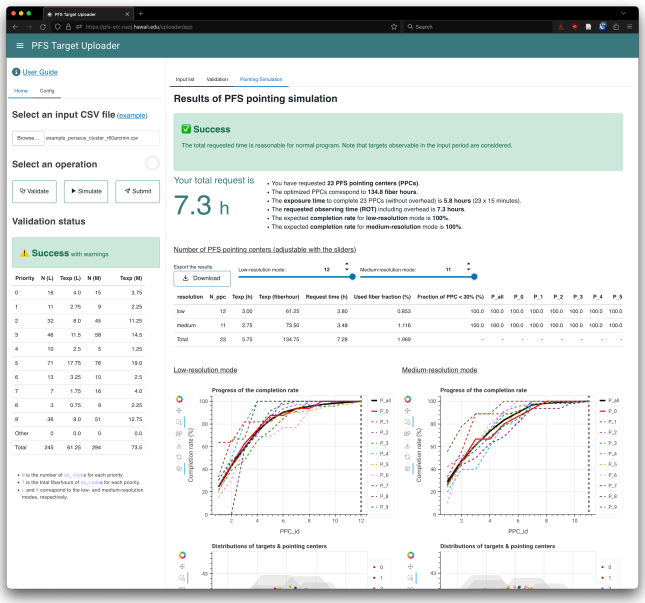

Figure 2. A screenshot of the web application showing the results of the pointing simulation for a target list. The summary of the target list is shown in the left panel while the summary of the PFS pointings is shown in the right panel.

Visit: https://pfs-etc.naoj.hawaii.edu/uploader

Any feedback would be greatly appreciated

E-mail: monodera@naoj.org