

## Z101r SuMIRe-PFS[40]: Prime Focus Spectrograph Instrumentation Status

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The PFS (Prime Focus Spectrograph) instrumentation is nearly complete finally. The last two spectrograph modules had been missing major hardware components, but the integration of them progressed well by November 22 2023 except for one near-infrared camera, and now the spectrograph system is being recommissioned for next engineering data acquisitions. On-sky engineering tests and observations have been carried out continually since September 2021 with Engineering First Light accomplished in September 2022. The performances and operation of the instrument are being optimized e.g. in the accuracy and speed of fiber positioning process. Long integrations of relatively faint objects are taken to validate expected increase of signal-to-noise ratio. The on-sky and calibration data are processed by the dedicated data reduction pipelines. Various tools are being developed to assess the data qualities and pipeline performances and their outputs are essential for pipeline developments. Releases of processed data internally to the collaboration are planned for science-oriented data quality check and feedback to pipeline developments. Given the science operation will start soon after the commissioning process is complete, various procedures of proposing, planning, & executing observations, processing data & assessing their qualities, and delivering data to observers are being developed and tested. In this presentation, a top-level summary of these achievements and progresses will be given with future perspectives.