# Tools Required for Telescope System Calibration and Measurement Procedure

This document lists the tools required for measuring various parameters during the calibration and analysis of the telescope system. These measurements will be used for spectral resolution analysis and quantum defect calculation.

## Tools for Measurement Categories

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| Measurement Category | Tools Required | Notes |
| Slit and Optical System | Micrometer or Vernier Caliper, Optical Ruler/Stage, Optical Bench | For measuring slit width, distance, and focal length. |
| CCD and Detector | High-resolution microscope, Digital Caliper, Image Processing Software | For measuring pixel size, resolution, and analyzing SNR. |
| Light Source | Monochromator, Optical Power Meter, Spectrometer | For measuring wavelength range, intensity profile, and spectral line width. |
| Optical Alignment | Collimator, Laser Pointer, Focusing Stage | For checking collimation and focus accuracy. |
| Spectral Calibration and Measurement | Spectrometer, Calibration Light Source, Monochromator | For spectral line separation and calibration. |
| Data Analysis | Image Processing Software (ImageJ, MATLAB, Python) | For line width analysis, spectral feature resolution, and error analysis. |
| Environmental and Stability Measurements | Digital Thermometer, Hygrometer, Accelerometer | For monitoring temperature, humidity, and vibration. |
| Timing-based Measurements | Timing Software, Oscilloscope or Timer | For measuring exposure and integration time. |