Hubble Space Telescope

Cycle 16 AR Proposal

# A Final Calibration of the Primary WFPC2 Emission-Line Filters Using the Orion Nebula

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Scientific Category: ISM AND CIRCUMSTELLAR MATTER

Scientific Keywords: H II REGIONS, HERBIG-HARO OBJECTS, INTERSTELLAR AND INTERGALACTIC MEDIUM, JETS, PLANETARY NEBULAE

Total Budget Amount: $42,421

Calibration: Yes

## Abstract

Emission-line imaging with the WFPC2 has been dominated by use of the F656N, F 658N, and F502N filters.These filters require on-orbit calibration in order to convert their signals to absolute energy surface brightness units. This has previously been done, but there is a question of time variation of their properties and this will be addressed by special observations of the Orion Nebula as part of calibration program 11038. This archive program will use the previously adopted method that uses a well-calibrated long-slit reference sample to calibrate the data. There is also a mid-lifetime set that will allow tracking variations with time. I will also determine if a new set of multi-aperture groundbased data is satisfactory for use as a reference source and if it is, to determine variations in the calibration constants across the individual CCD detectors and with better time resolution by using five additional studies.

## Investigators:

| | Investigator | Institution | Country |
|---|---|---|---|
| PI | Dr. C. Robert O'Dell | Vanderbilt University | USA/TN |

Number of investigators: 1

## Dataset Summary:

| Instrument | No. of Datasets | Retrieval Method | Retrieval Plan |
|---|---|---|---|
| WFPC2 | 8 | FTP | Data will be retrieved a single program at a time. Each of the eight programs includes four filters with at least two exposures with each filter. |