

STIS-CE Lamp Project



- Pt-Ne atlas, Reader et al. (1990) done for GHRS
- STIS uses Pt/Cr-Ne lamp
 - Impact of the Cr lines strongest in the near UV
- Pt/Cr-Ne line list - Far UV delivered in 2004
 - (Sansonetti, Kerber, Reader, Rosa, 2004, ApJS 153, 555)
 - used by STScI (STIS close-out)
- Near UV to be delivered by end of Nov 2006
 - Kerber et al. in preparation
 - Delayed because ESA support for IPMG (ST-ECF) was terminated in early 2005

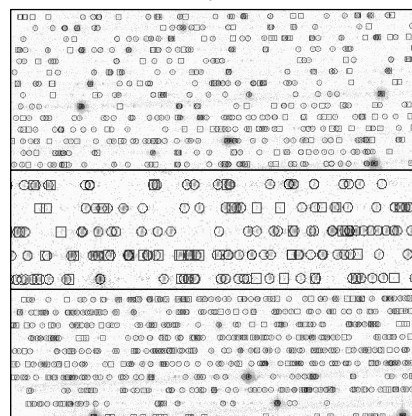
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STIS-CE Lamp Project



- Pt/Cr-Ne line list
- Impact of the Cr lines strongest in the NUV
- List of > 5000 lines
- λ accurate to < 1/1000 nm

Echelle, $\lambda_c \approx 251.3$ nm



of lines: Pt-Ne 258 vs Pt/Cr-Ne 1612

STIS Calibration Enhancement

- **NASA Public Service Group Achievement Award 2006 to joint ST-ECF and NIST team**
 - IPMG at ST-ECF (M. Rosa, F. Kerber, P. Bristow)
 - NIST (C.J Sansonetti, G. Nave, J. Reader)
- *“In recognition of your painstaking efforts to provide maximum scientific value to HST data using precision laboratory measurements and physical modeling techniques.”*

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COS Lamp Project

- **TAGFLASH mode of operation on COS**
 - Higher demand on calibration source
 - Lifetime ?
 - Changes in Intensity and/or Spectral Output ?
- **Joint effort by ST-ECF, ESO, NIST, STScI and CASA, funded by NASA & ESA**
- **Accelerated aging test of three lamps:**
 - 1 in air at NIST, spectroscopy at 0, 200, 500, 800, 880 h; completed
 - 2 in vacuum at CASA (photometry), spectroscopy at NIST at 0, 1000 h ?; to begin soon

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COS Lamp Project

- **Status Report 4.10.2006**
- **OK to support COS operations for 5 years**
- **Update: Air lamp reached 897 h before failure**
 - Intensity stable to ~ 20%
 - Spectrum stable
 - **Best indicator of aging: voltage vs current (time)**
 - Include voltage in telemetry ?
- **Further analysis, 2nd lamp, ...**

