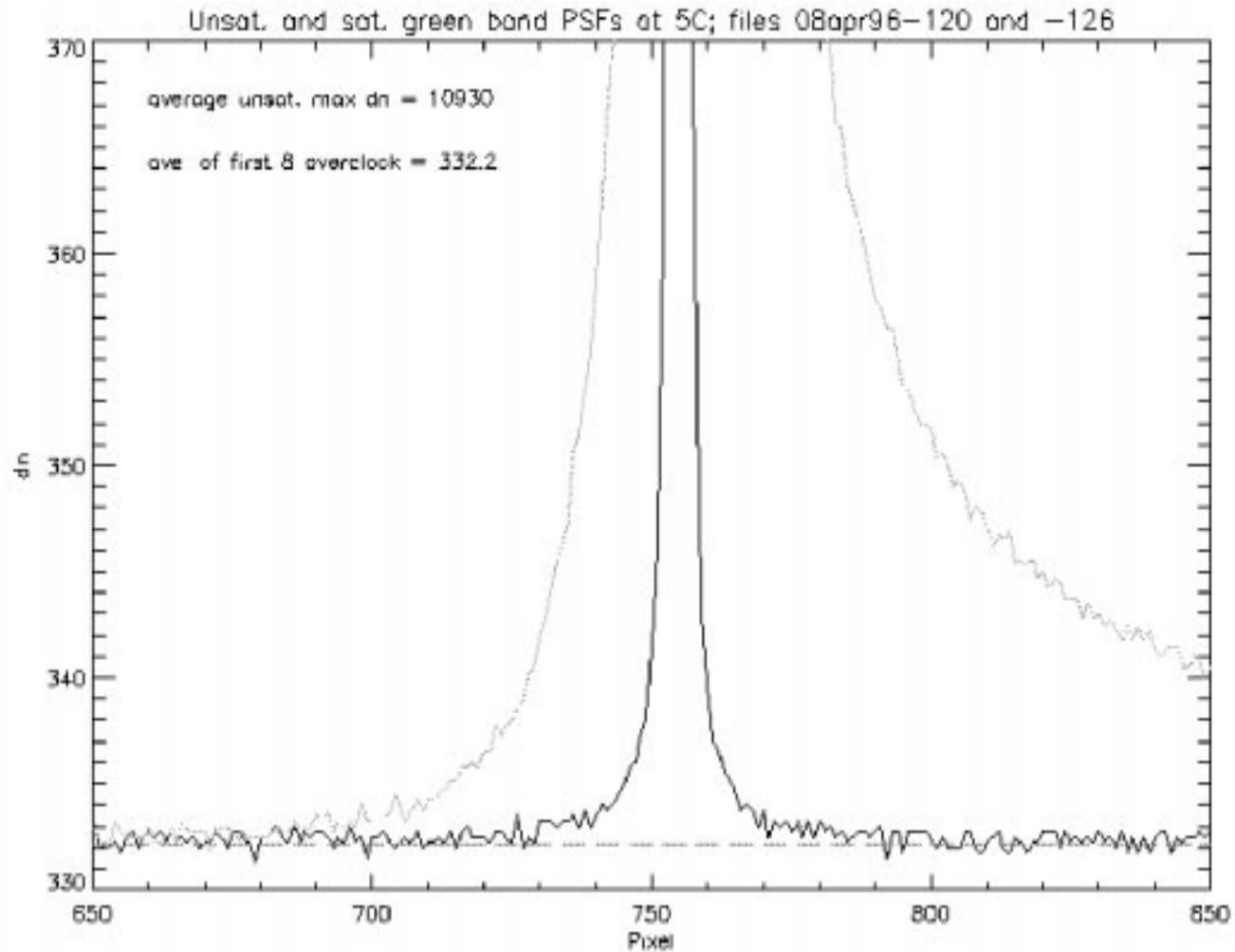




EM CAMERAS INVALUABLE FOR DIAGNOSING / FIXING PROBLEMS



Problem	Cause	Solution	Status
White light leaks in filter	Bondlines between bands	Masks added to filter	Fixed
Interference fringes in flat-field data	Fabry-Perot interference between CCD and filter	Increase spacing between filter and CCD	Fixed
Spurious signal in CCD	Illumination of silicon around CCD bond pads	Addition of light shield to focal plane package	Fixed
Insufficient out-of-band rejection	Spattering in filter coatings	Higher quality flight filter Spatter side down	Improved flight performance
Low-level "halo" around point-source image	Reflection between CCD and filter	See above. Correction in data processing if needed	Improved flight performance
Excess power needed to cool CCD to -10°C	Thermal leaks	Focal plane temperature changed to -5°C	Fixed
Complex assembly procedure to achieve repeatable focus	Lens to camera head interface flanges	Interface redesigned and simplified	New design breadboarded
Low-level inter-band electrical crosstalk (0.07%)	Suspected inadequate grounding	Additional grounding or correction in data processing	Options being investigated



- **Filter scatter sites and CCD/ filter reflections determined to be cause of finite width PSF and out-of-band performance, see:**
 - Korechoff, R.P, D.J. Diner, D.J. Preston, C.J. Bruegge (1995). In Advanced and Next-Generation Satellites. Spectroradiometer focal-plane design considerations: lessons learned from MISR camera testing. EUROPTO/ SPIE Vol. 2538, pp. 104-116, 25-28 September.

