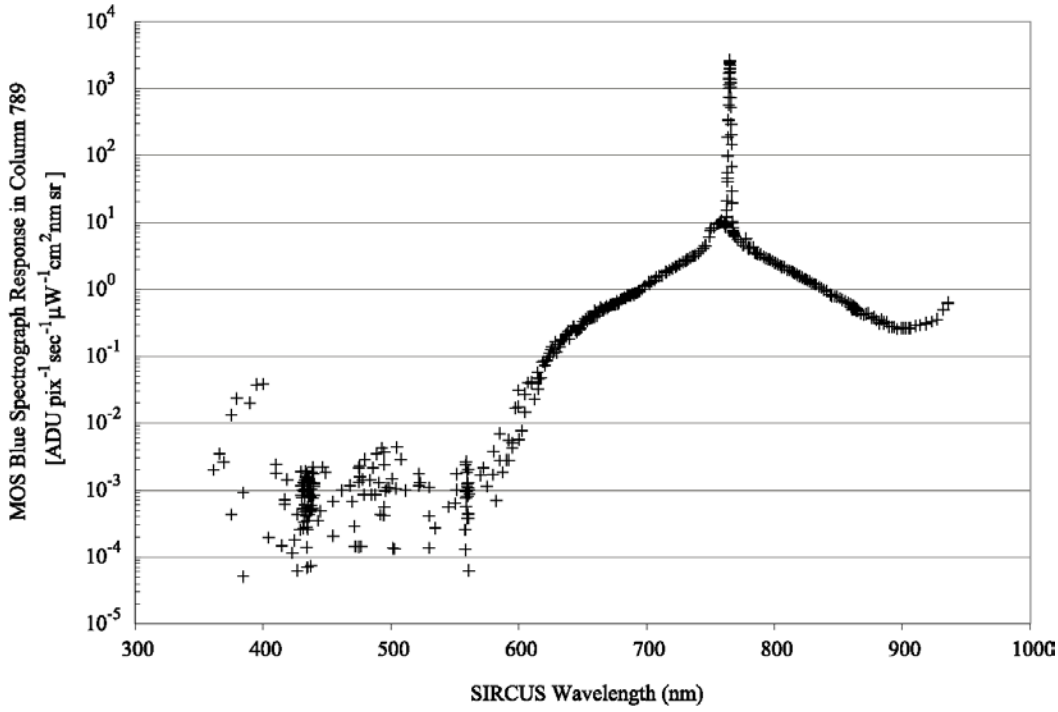

Figure 2.14: Same as Figure 2.13, but for one CCD pixel of the MOS red spectrograph.

Validation of the stray light correction algorithm is accomplished using an ISS that is made to simulate the spectral shape of in-water radiances using colored glass filters. The radiance of this colored source is determined independently by a NIST calibrated double grating monochromator. The results are compared to the corrected and uncorrected MOBY values and used to estimate the uncertainty of the stray-light correction. MOS stray light corrections are discussed in more detail in Chapter 5 of the present Volume.

CIMEL Sun Photometer and Sky Radiance Sensor Calibrations

The CIMEL instruments deployed at the stations on Oahu and Lanai are calibrated and maintained at NASA GSFC by the SIMBIOS Project Office, in collaboration with AERONET Project, following the procedures described in Volume II, Chapter 4.

2.5 DATA ANALYSIS METHODS

As described above in Sect. 2.3, a single MOBY observation comprises a sequence of four to seven spectral radiance and irradiance measurement cycles for optical collectors located at the different depths on the spar (Table 2.6). The portion of the data record for an individual measurement cycle, *e.g.* for the upwelling radiance collector on a MOBY arm at depth z_i, is recorded as 3 arrays of digital counts $C_{Li}(\tau,N_p,z_i,t_m,\lambda)$ [m = 7, 8, 9 in an $L_u(z_i,\lambda)$ cycle of Table 2.6], where t_m is the time of the $m^{\underline{th}}$ measurement and τ is integration time. The "bin factor" N_p is expressed as the number of CCD rows read into the output register during each read step. Preceding and following each set of 3 radiance count arrays $C_{Li}(\tau,z_i,t_m,\lambda)$, the data record for one measurement cycle contains digital count arrays for incident surface irradiance (above water on the MOBY mast) $C_s(\tau_{sm},t_m,N_{pdm},\lambda)$, [m = 2, 3 4 (pre) and m = 12, 13, 14 (post) (Table 2.6)], and the MOS system dark response $D(\tau_{dm},t_m,N_{pdm},\lambda)$, for E_s [m = 1 and 5 (pre)