

Improved Quality Assurance Procedures for the Antarctic and U.S. Ultraviolet Monitoring Program

P. Disterhoft and S.W. Stierle

Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, Boulder, CO 80309; 303-497-6355, E-mail: patrick.disterhoft@noaa.gov

To improve long-term data quality, new software based tools have been implemented to quickly analyze and track instrument operation and calibration. Small changes in the instrument adversely affect data quality that might not be detected until the data are being analyzed. These instrumental or calibration errors could result in a large loss of unrecoverable data. In conjunction with the new software tools, there has also been new calibration tracking standards developed for each station. The implementation of the tracking standards will provide a method to more accurately assess the stability of the irradiance scale at each station. The methods applied to the Antarctic and U.S. high-resolution spectroradiometers are similar to those that have been successfully employed by the NEUBrew network.

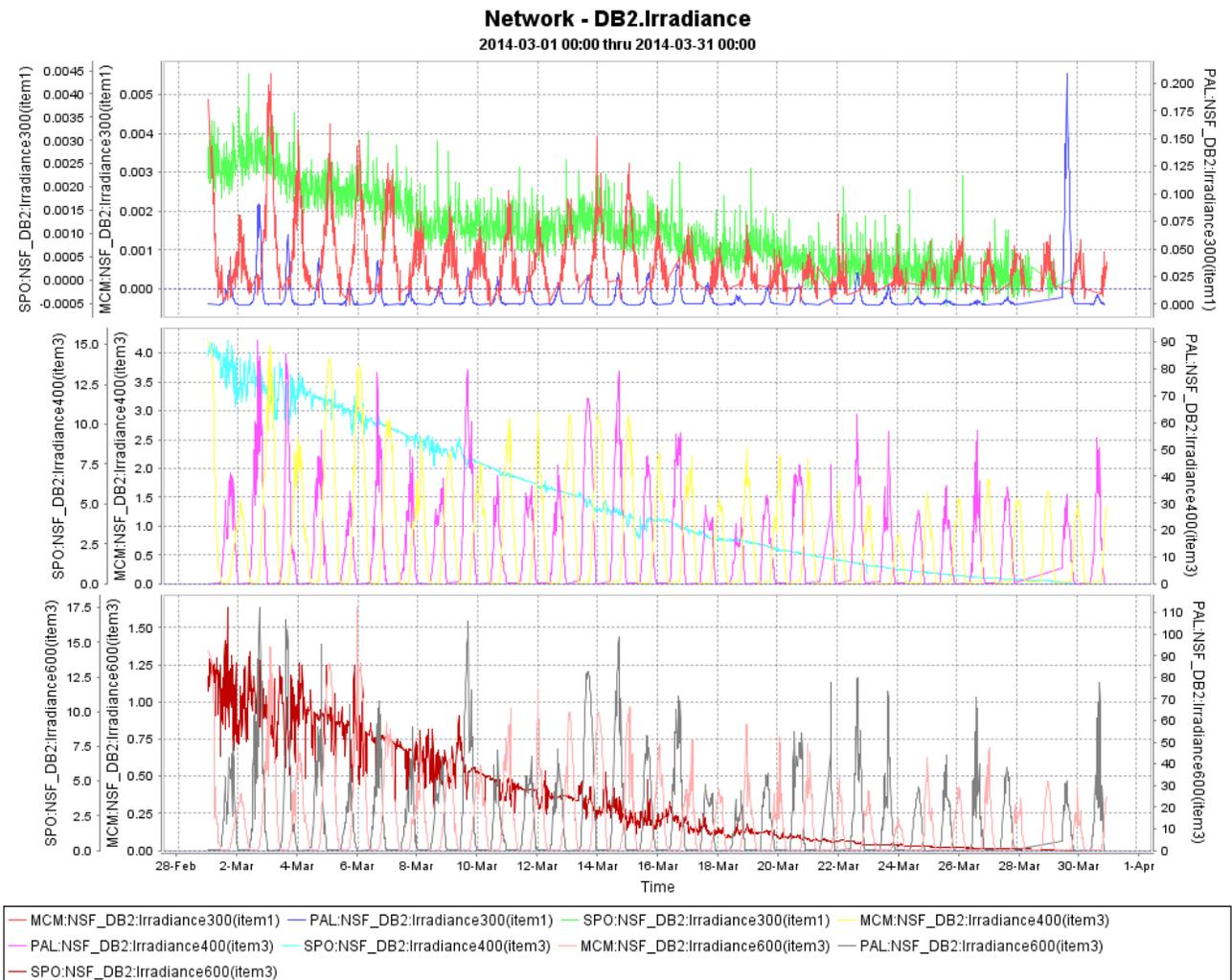


Figure 1. Changes in instrument operation can clearly and quickly be identified as shown in the daily irradiance from Palmer Station (top panel, blue plot). The event on March 30 was caused by a power failure at the station, which then caused the wavelength registration to shift by more than 4 nanometers. The problem was quickly identified and rectified before a large loss of data occurred.