

Level 2.0 Quality Control Checklist

- 1. Instrument Performance Check:** Evaluate data for occurrences of instrument failure during the field deployment period and determine possible causes (e.g., water on the window, spider web in the collimators, or poor tracking).
- 2. Temperature Sensor Check:** Determine if temperature sensor has anomalies that affect the temperature correction of the 1020 nm channel.
- 3. Calibration Check (or V_0 Check):** Evaluate pre- and post-field calibration to determine if filter degradation or non-linear changes of the calibration constants occurred over time.
- 4. Aerosol Optical Depth (AOD) Spectral Dependency Check:** Inspect AOD data for any spectral dependence abnormalities (e.g., rapid increase of transparency in the UV in early morning or late afternoon due to filter leakage or degradation; or sudden increases and decreases of the AOD in the UV channels due to electronic problems).
- 5. Cloud Contamination Check:** Inspect AOD data for any possible cloud contaminated outliers.
- 6. Consistency Check:** Visually inspect data for abnormal data points and identify unusual optical events using additional available information (e.g., MODIS imagery, lidar data, back-trajectories, etc.).
- 7. Historical Data Impact Check:** Evaluate impact of new data on existing aerosol climatology.