Figure S1. *R/V Onnuri* (top photo); instruments housed in custom-built box sited along the starboard rail above the bridge (long box, left half of bottom left photo, with tall curved sampling mast just to its right); pumps housed in a separate box located a few meters away along the stern rail (bottom right photo).
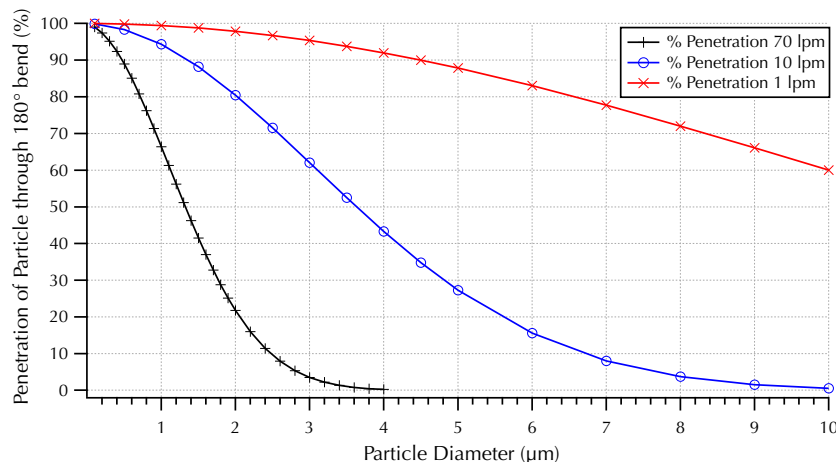
Figure S2. Illustration of the relationship between flow rate and size cut of the sampled aerosol particles.
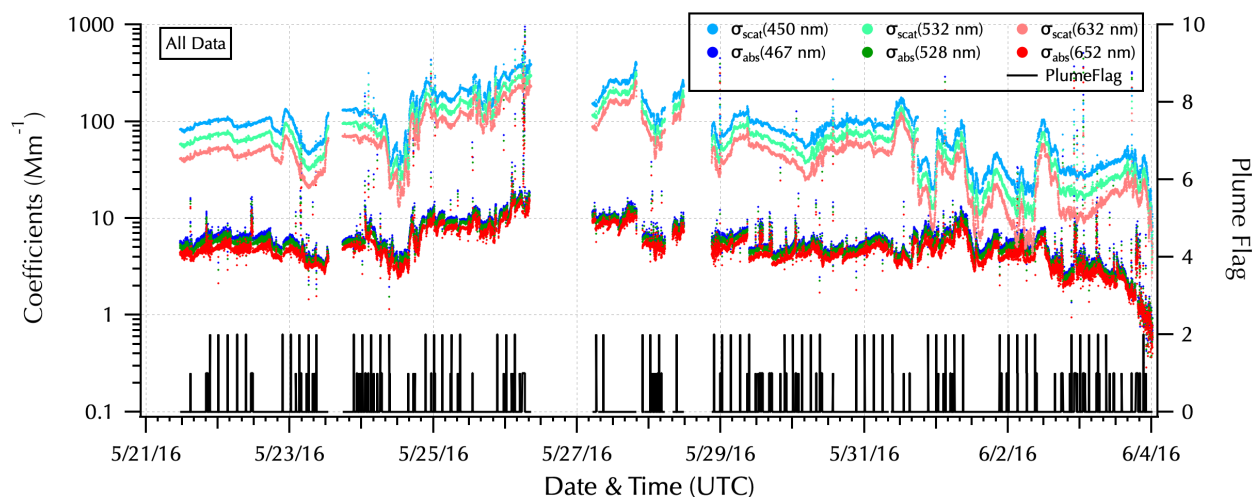
Figure S3. All scattering coefficients (σ_{scat}, light shades) and absorption coefficients (σ_{abs}, dark shades) averaged to 1 minute intervals during the cruise (left axis, units of Mm^{-1}), along with plume flags (right axis, = 0 ambient data, = 1 ship exhaust interception, and = 2 filter changes).
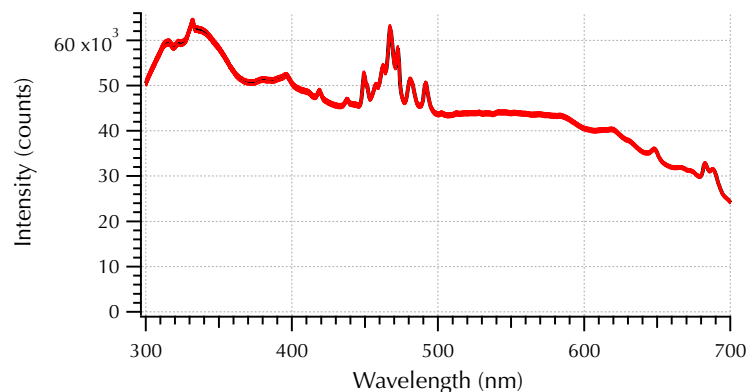
Figure S4. Example of a one hour set of intensity spectra that illustrate the two wavelengths (332 nm and 467 nm) that sometimes saturated due to drift in the lamp intensity.
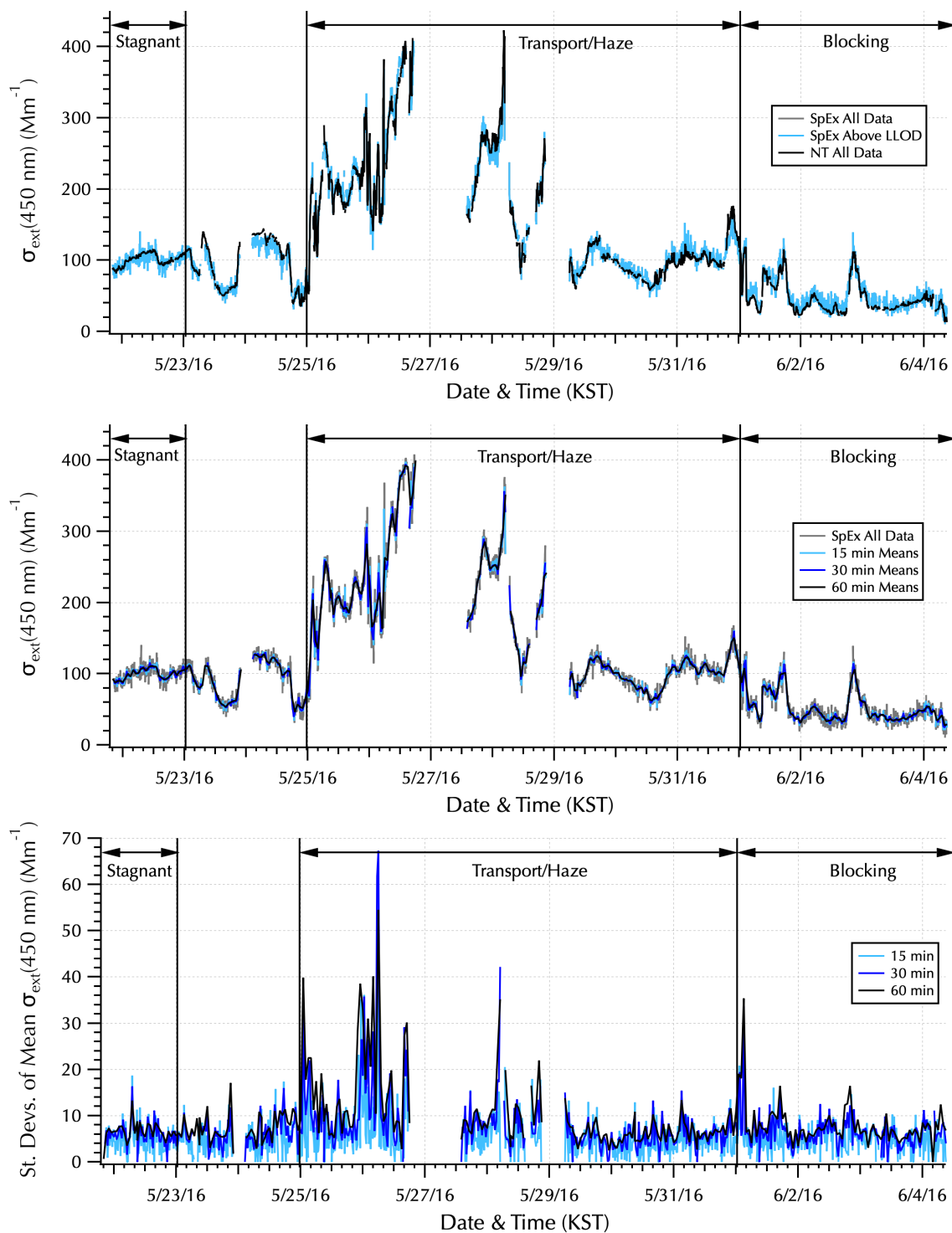
Figure S5. Time series of 450 nm σ_{ext} (Mm^{-1}) throughout the cruise. Top panel: SpEx (all data, gray; above LLOD, blue; these curves are entirely coincident as there were no below detection values at this wavelength) with NT σ_{ext} (black). Middle panel: SpEx (all data, gray) with 15 min (light blue), 30 min (dark blue), and 60 min (black) means. Bottom panel: SpEx standard deviations of the 15 min (light blue), 30 min (dark blue), and 60 min (black) means. Meteorological periods shown as in Fig. 2.
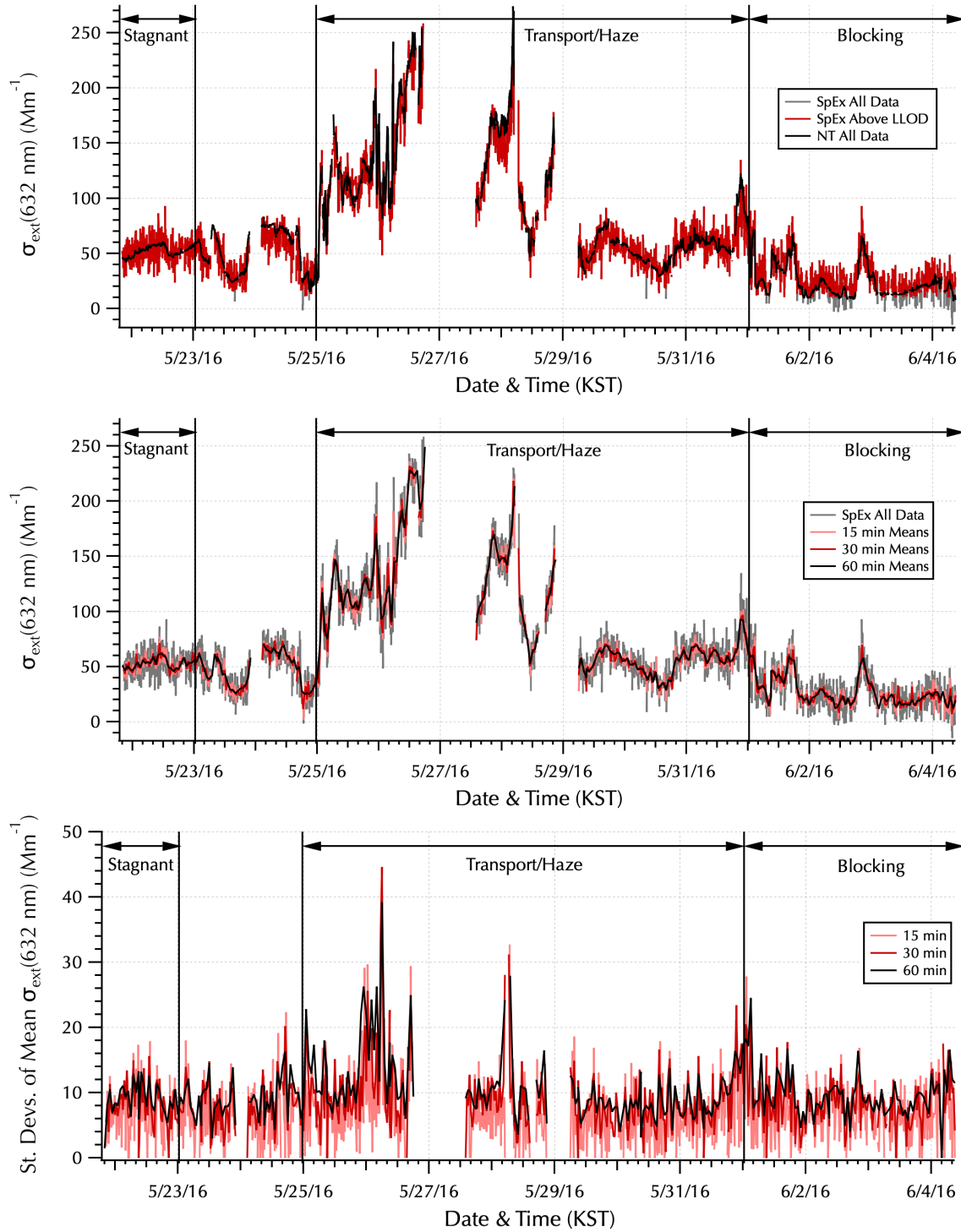
Figure S6. Time series of 632 nm σ_{ext} (Mm^{-1}) throughout the cruise. Top panel: SpEx (all data, gray; above LLOD, red; these curves are coincident except for when the lowest values are below detection and hence, appear gray) with NT σ_{ext} (black). Middle panel: SpEx (all data, gray) with 15 min (light red), 30 min (dark red), and 60 min (black) means. Bottom panel: SpEx standard deviations of the 15 min (light red), 30 min (dark red), and 60 min (black) means. Meteorological periods shown as in Fig. 2.