Supplement of

Comparison of scanning aerosol lidar and in situ measurements of aerosol physical properties and boundary layer heights

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Based on systematic laboratory measurements with the different particle sizers Fidas200 OPC, SMPS, and APS the FI-DAS200 counting efficiency was determined (see Figure S2). This counting efficiency was used to correct all measured size distributions.
Figure S3. Time series of range corrected LIDAR signal and boundary layer height retrieved from scanning LIDAR (pink squares) as well as boundary layer heights obtained from ERA5 dataset (white dashed line) and vertical potential temperature profiles (white solid line) measured by UAV on July 12th, 2018.

Figure S4. Correlation of boundary layer height retrieved lidar and radiosonde measurement on 9th and 12th of July, 2018 in Jülich.
Figure S5. Profiles of backscatter coefficients from LIDAR for integration of 5 minutes and vertical profile of in-suit backscatter coefficient measured by balloon-borne COBALD on July 12th of 2018. The black line segments indicate the altitude ranges selected to get the merged profile of the backscatter coefficient from LIDAR.