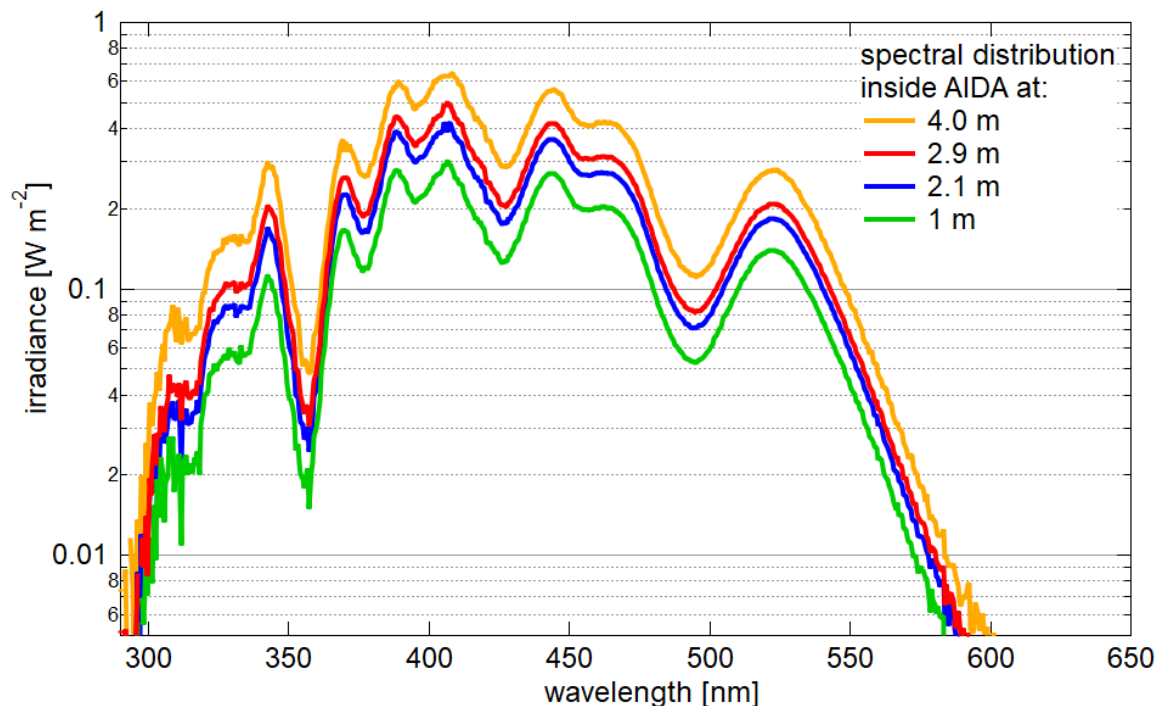


LIGHT SPECTRA MEASURED INSIDE THE AIDA AEROSOL AND CLOUD SIMULATION CHAMBER

ADDITIONAL INFORMATION ON THE SPECTRAL LIGHT MEASUREMENTS IN THE AIDA AEROSOL AND CLOUD SIMULATION CHAMBER TO CHARACTERIZE AN LED BASED SOLAR SIMULATOR

The spectra were measured on January 9th, 2020 at the heights above the chamber bottom of 1 m, 2.1 m, 2.9 m and 4.0 m with an uncertainty of ± 10 cm in the center of the chamber with an Opsytec SR Pro UV-Vis Spectrometer connected to a UV-diffusor in W m^{-2} (spectral resolution: 2.3 nm (FWHM)). The Opsytec SR Pro UV-Vis Spectrometer had been calibrated on December 11th, 2019 by Opsytec Dr. Gröbel GmbH showing spectral differences of less than 0.3 nm and an accuracy of $\pm 9\%$ for the radiometric results. The AIDA light source was operated at the highest output possible at room temperature for this characterization. Drastic outliers were considered as measurement artefacts and replaced by the median. The median was calculated with 15 points and every point exceeding the median by a threshold of 0.04 was replaced with the median. This resulted in the replacement of at most 21 out of the 2048 data points and does not change the general spectral information. The data measured at different heights were saved as a space separated text file: SRPro-central-measurements-20200109.txt.



Plot of the tabulated spectra measured at different heights inside the AIDA chamber.

Please note that these data are related to the following publication in the AMT Special Issue: Simulation chambers as tools in atmospheric research:

Vallon, M., Gao, L., Jiang, F., Krumm, B., Nadolny, J., Song, J., Leisner, T., and Saathoff, H.: LED based solar simulator to study photochemistry over a wide temperature range in the large simulation chamber AIDA, Atmos. Meas. Tech. Discuss. [preprint], <https://doi.org/10.5194/amt-2021-362>, in review, 2021.