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Influence of mountain topography on aerosols

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The AERONET DRAGON J-ALPS (joint research on aerosol process studies) field campaign has been conducted from 2020 to 2021 in the central mountain region of Japan. The region is surrounded by several high mountain ranges, called Japanese alps. The aim of field campaign is to investigate mountain topographic effect on aerosol properties, its transportation, its life cycle and collect aerosol measurements for comparison to the results of aerosol retrieval from space where over complex surface such as mixed area of urban and agricultural in the narrow valley area. Twelve AERONET instruments were temporarily deployed for the J-ALPS, four optics were set on the mountains, eight were on the valley.

This work presents preliminary results which include background aerosols in the valley, long-range transboundary aerosol events such as biomass burning smoke, Asian dust and so on. Finally, results of regional model simulations are also presented.

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