



Changes of aerosol backscatter and solar activity.

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The short- and long-time variations of particle backscatter in the atmosphere are investigated. Solar proton events and daily changes of the aerosol backscatter profiles from EARLINET stations and other lidar stations are considered. Long-time variations of particle backscatter during more than 11 years are compared with cyclic variations of cosmic rays.

A condensation mechanism can be proposed for explanation of the influence of solar activity on aerosol backscatter. This means that the cosmic rays have enough energy to penetrate into the lower atmosphere and to ionize particles of aerosols. These ionized particles are condensation nuclei which take up water vapour (and other substances), grow and finally form clouds. Cloud coverage influences the earth's albedo and present an important factor for radiative forcing.