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Scavenging of polycyclic aromatic hydrocarbons from the atmosphere

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Scavenging of polycyclic aromatic hydrocarbons from the atmosphere

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An important process affecting a fate of persistent organic pollutants in the environment is their wet removal from the atmosphere. An efficiency of the wet deposition depends on the properties of compounds, their partitioning between the gas and particulate phases, type of precipitation and meteorological conditions.
Atmospheric concentrations of polycyclic aromatic hydrocarbons (PAHs) were measured in the gas and particle phases prior and after the precipitation event. During the precipitation, snow or rain was sampled by a wet sampler and the particle-bound fraction was separated from the dissolved fraction. Scavenging coefficients were determined as a ratio of the air and rain concentrations. Significant differences in the efficiency of scavenging processes were found between the snow and rain precipitations under specific meteorological situation.

Keywords – scavenging, precipitation, scavenging coefficient, partitioning