chemisch physikalische gesellschaft

Gegründet im Jahre 1869 von H. Hlasiwetz, J. Loschmidt, J. Petzval und J. Stefan

EINLADUNG

zum Vortrag
von

Dr. Barbara D'Anna

IRCELYON - Institut de Recherches sur la Catalyse et l'Environnement de Lyon, CNRS, Univ.Lyon

Marine Primary and Secondary Aerosol emissions related to seawater biogeochemistry from a mesocosm and laboratory study

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Dienstag, 1. Dezember 2015, um 17:30 Uhr

Ort: Lise-Meitner-Hörsaal, Fakultät für Physik, Universität Wien,
1090 Wien, Strudlhofgasse 4 / Boltzmanngasse 5, 1. Stock

Barrierefreier Zugang: Boltzmanngasse 5, Lift, 1. Stock rechts über den Gang zum Hintereingang des Hörsaals

Abstract:
Marine aerosol particles contribute significantly to the global aerosol load and consequently have an important impact on both the Earth's albedo and climate. Different factors influence the way they are produced from the sea water and transferred to the atmosphere. In order to investigate marine emissions and their evolution in the atmosphere we used semicontrolled environments such as mesocosms and a smog chamber. Within the SAM project (Sources of marine Aerosol in the Mediterranean), we characterize both primary Sea Salt Aerosol (SSA), Primary and Secondary Organic Aerosol and VOCs emissions. Sea water emissions (gas and particles) were monitored using on-line and off-line techniques. The size segregated aerosol number fluxes, cloud condensation nuclei (CCN) fluxes, organic contents were determined as a function of the sea water characteristics (biological activity). In both experiments waters were daily sampled for chemical and biological (dissolved organic matter (i.e. DOC and CDOM), particulate matter and related polar compounds, transparent polysaccharides and nutrients concentration) and biological (chlorophyll a, virus, bacteria, phytoplankton and zooplankton concentrations) analyses. The preliminary results evidence a weak correlation of the primary aerosol organic fraction in the CCN sizes with Chl-a, and a stronger dependence on the bacteria and virus population.