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## Seasonal variability of submicron aerosol acidity at a coastal site in the Eastern Mediterranean

Anna Maria Neroladaki<sup>1</sup>, Iasonas Stavroulas<sup>1,2</sup>, Irimi Tsiodra<sup>1,3</sup>, Stelios Myriokefalitakis<sup>2</sup>, Anthanasios Nenes<sup>3,4</sup>, Nikos Mihalopoulos<sup>1,2</sup>, and Maria Kanakidou<sup>1,3</sup>

<sup>1</sup>University of Crete, Environmental Chemical Processes Laboratory, Chemistry, Heraklion, Greece

(amwateroil2@gmail.com; mariak@uoc.gr)

<sup>2</sup>Institute for Environmental Research and Sustainable Development, National Observatory of Athens (NOA), GR-15236 Palea Penteli, Greece

<sup>3</sup>Center for Studies of Air Quality and Climate Change, Institute for Chemical Engineering Sciences, Foundation for Research and Technology Hellas, Patras, Greece

<sup>4</sup>Laboratory of Atmospheric Processes and their Impacts, School of Architecture, Civil and Environmental Engineering, Ecole Polytechnique Fédérale de Lausanne, CH-1015, Lausanne, Switzerland.

Aerosol acidity (pH) plays a significant role in the chemical behaviour of atmospheric particles, since it affects their composition and toxicity. This study investigates the seasonal variability of submicron particles acidity at the Finokalia atmospheric observatory in the eastern Mediterranean from February to December 2014. Direct measurements of aerosol pH are challenging and thus very rare. Therefore, aerosol pH is generally derived from thermodynamic model calculations. Submicron aerosol chemical composition data along with NH<sub>3</sub> and HNO<sub>3</sub> gas phase concentrations measured at Finokalia are here used in the thermodynamic model ISORROPIA-II in order to predict the aerosol pH. The predicted pH values show clear seasonality and the expected dependence on temperature and relative humidity. Submicron aerosols at Finokalia have been found to be acidic with an average pH values over the studied period of  $1.77 \pm 0.67$ , with the highest values occurring in winter and the lowest in summer and a winter to summer ratio of about 1.4.

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