

## 2.036 Nitrous acid in the marine boundary layer.

Early Career Scientist

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Abstract:

Nitrous acid (HONO) is a significant source of hydroxyl radical, plays a vital role in starting and promoting atmospheric photochemical processes, and indirectly affect the formation of secondary organic pollutants, hence, impacts regional air quality. HONO concentration measurements have been reported from different regions but rarely in the marine boundary atmospheric layer. Two in-situ campaigns were conducted at marine background atmospheric monitoring stations in Tuoji Island (China) and San Vicente (Cape Verde) in order to obtain a holistic understanding of HONO regional characteristics, formation mechanisms and implications for atmospheric oxidizing capacity in marine and coastal regions.

The obtained data showed enhanced ambient HONO concentrations during sunlight hours. Concentration peaks frequently appeared during noontime or early afternoon. The differences of daytime HONO patterns in the two areas may be attributed to different formation pathways or different environments in terms of pollutants concentrations and characteristics. However, light-enhanced heterogeneous reactions on Sea MicroLayer (SML) might be an important process involved in the concentrations trends of HONO observed. In this study, a sunlight conceptual model has been used to display the possible interactions between HONO and SML. The data obtained will be presented and discussed.