

6 Marzo 2013 ore 11.00**Aula "A. Marino"****Occurrence of nitrous acid in urban area****Francesca Spataro****Institute for Atmospheric Pollution Research (CNR-IIA)**

The atmospheric chemistry of nitrogen oxides ($\text{NO}_x = \text{NO} + \text{NO}_2$) is essential to both the overall budgets of reactive nitrogen in the atmosphere, as well as the formation of oxidants. In particular, hydroxyl radicals (OH) represent an essential oxidizing species in the atmosphere. They are known as an atmospheric "cleaners", which significantly contribute to the removal of air pollutants. In addition, as a major driven force of atmospheric oxidation reactions, OH radicals are actively involved in the formation ozone (O_3), particulate matter, and acid rains.

Nitrous acid (HONO) has been considered as one of the most important atmospheric odd nitrogen species because it acts as a relevant source of tropospheric OH radicals by its photolysis in the early morning, especially during sunrise, when other primary HO_x ($\text{OH} + \text{HO}_2$) sources, such as O_3 and formaldehyde photolysis, are still weak.



HONO is usually referred as a typical product of the polluted urban air because its amount seems to depend on the degree of pollution and it still constitutes an extremely interesting field of pollution studies. Nevertheless, the exact HONO concentrations are still under discussion due to the difficulty of accurately measuring this species. In addition, the discussion about the atmospheric HONO sources, especially during daytime, is still open and many questions have to be resolved. In this seminar the results obtained during two field campaigns in the winter and summer of 2007 at Beijing (China) will be reported. The atmospheric HONO concentrations will be discussed from the standpoint of temporal and diurnal variations and meteorological effects. A discussion on HONO formation mechanisms will be performed based on quantitative analysis and correlation studies, while the contribution of different sources to the HONO budget will be examined by using the pseudo steady state approach (PSS).

per informazioni : giuseppe.dattoli@enea.it,
monica.cimino@enea.it - *Relazioni Esterne - Direzione Centro Frascati*