Geophysical Research Abstracts
Vol. 16, EGU2014-4937, 2014
EGU General Assembly 2014

Ship-based DOAS measurements of OVOCs during the Malaspina 2010-2011 expedition

Carlos Cuevas (1), Cristina Prados-Roman (1), Anoop Mahajan (2), Tim Hay (1), Sarah-Jeanne Royer (3), and Alfonso Saiz-Lopez (1)

(1) Atmospheric Chemistry and Climate Group, Institute of Physical Chemistry Rocasolano, CSIC, Madrid, Spain., (2) now at: Indian Institute of Tropical Meteorology, Pune, India., (3) Institute of Marine Sciences, CSIC, Barcelona, Spain.

Within the framework of the Malaspina 2010-2011 circumnavigation, a MAX-DOAS instrument was deployed on board the Hesperides vessel. As a result of the measurements performed in the UV/Vis spectral region during seven months and across the Atlantic, Indian and Pacific oceans, an extensive data base of several trace gases was gained. Being relevant intermediates in the breakdown of common biogenic and anthropogenic volatile organic compounds (VOCs), glyoxal ((CHO)2) and formaldehyde (HCHO) were particularly investigated.
In the global marine boundary layer (MBL) measurements show averaged background levels of formaldehyde of 1 ppbv, with slightly higher values in the northern hemisphere. However in the open MBL glyoxal was not detected, yielding to an upper limit of 25 pptv along the cruise track. This upper limit is much lower than previously reported glyoxal values of up to 140. Mixing ratios and geographical distribution for both glyoxal and formaldehyde will be reported and compared with other previous field campaigns.