Geophysical Research Abstracts,
Vol. 11, EGU2009-1459-1, 2009
EGU General Assembly 2009

Growth of HFC-125 (CHF2CF3) in the atmosphere determined from in-situ observation at AGAGE and SOGE observatories.

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High frequency, in-situ observation from the Advanced Global Atmospheric Gases Experiment (AGAGE) and System for Observation of halogenated Greenhouse gases in Europe (SOGE) networks for the period 1998 to 2008, combined with archive flask measurements dating back to 1978, have been used to capture the rapid growth of HFC-125 (CHF2CF3) in the atmosphere. The extensive observations have been combined with a range of modelling techniques to derive global and regional emission estimates in a top-down approach, which can be compared to bottom-up estimates of emissions based on production and consumption data. This independent verification of emissions is vital in assessing the effectiveness of international treaties, such as the Kyoto Protocol.