

Home

Online Library ACP

- Recent Final Revised Papers
- [Volumes and Issues](#)
- Special Issues
- Library Search
- Title and Author Search

Online Library ACPD

Alerts & RSS Feeds

General Information

Submission

Review

Production

Subscription

Comment on a Paper

Impact
Factor
4.865

ISI
indexed



[Volumes and Issues](#) [Contents of Issue 12](#) [Special Issue](#)

Atmos. Chem. Phys., 6, 4545-4557, 2006

www.atmos-chem-phys.net/6/4545/2006/

© Author(s) 2006. This work is licensed under a Creative Commons License.

Separation of emitted and photochemical formaldehyde in Mexico City using a statistical analysis and a new pair of gas-phase tracers

A. R. Garcia¹, R. Volkamer¹, L. T. Molina¹, M. J. Molina¹, J. Samuelson², J. Mellqvist², B. Galle², S. C. Herndon³, and C. E. Kolb³

¹Dept. of Earth, Atmospheric and Planetary Sciences, Massachusetts Inst. of Technology, Cambridge, MA 01239-4307, USA

²Chalmers Tekniska Hoegskola, Goeteborg, Sweden

³Center for Atmospheric and Environmental Chemistry, Aerodyne Research, Inc. Billerica, MA 01821-3976, USA

Abstract. Photochemical pollution control strategies require an understanding of photochemical oxidation precursors, making it important to distinguish between primary and secondary sources of HCHO. Estimates for the relative strengths of primary and secondary sources of formaldehyde (HCHO) were obtained using a statistical regression analysis with time series data of carbon monoxide (CO) and glyoxal (CHOCHO) measured in the Mexico City Metropolitan Area (MCMA) during the spring of 2003. Differences between Easter week and more typical weeks are evaluated. The use of CO-CHOCHO as HCHO tracers is more suitable for differentiating primary and secondary sources than CO-O₃. The application of the CO-O₃ tracer pair to mobile laboratory data suggests a potential in-city source of background HCHO. A significant amount of HCHO observed in the MCMA is associated with primary emissions.

[Final Revised Paper](#) (PDF, 1373 KB) [Discussion Paper](#) (ACPD)

Citation: Garcia, A. R., Volkamer, R., Molina, L. T., Molina, M. J., Samuelson, J., Mellqvist, J., Galle, B., Herndon, S. C., and Kolb, C. E.: Separation of emitted and photochemical formaldehyde in Mexico City using a statistical analysis and a new pair of gas-phase tracers, Atmos. Chem. Phys., 6, 4545-4557, 2006. [Bibtex](#) [EndNote](#) [Reference Manager](#)

Search ACP

Library Search

Author Search

News

- Sister Journals AMT & GMD
- Financial Support for Authors
- Journal Impact Factor
- Public Relations & Background Information

Recent Papers

01 | ACPD, 15 Jan 2009: Kinetic modeling of nucleation experiments involving SO₂ and OH: new insights into the underlying nucleation mechanisms

02 | ACPD, 15 Jan 2009: Comparisons of WRF/Chem simulations in Mexico City with ground-based RAMA measurements during the MILAGRO-2006 period

03 | ACPD, 15 Jan 2009: Technical Note: In-situ quantification of aerosol sources and sinks over regional geographical scales