

Environmental Science: Atmospheres

rsc.li/esatmospheres

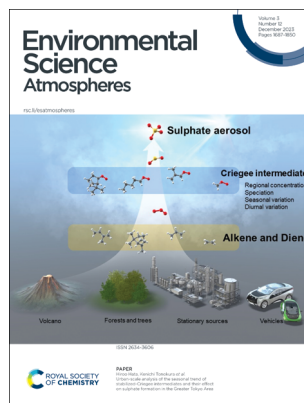
The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 2634-3606 CODEN ESANC9 3(12) 1687–1850 (2023)



Cover
See Sylvain Gnamien *et al.*, pp. 1741–1757. Image reproduced by permission of Alain Koffi, Yapo Jean, Cathy Liousse, Sylvain Gnamien and Kambou Sia from *Environ. Sci.: Atmos.*, 2023, 3, 1741.



Inside cover
See Hiroo Hata, Kenichi Tonokura *et al.*, pp. 1758–1766. Image reproduced by permission of Hiroo Hata from *Environ. Sci.: Atmos.*, 2023, 3, 1758.

CRITICAL REVIEW

1693

Uncertainties in mitigating aviation non-CO₂ emissions for climate and air quality using hydrocarbon fuels

David S. Lee,* Myles R. Allen, Nicholas Cumpsty, Bethan Owen, Keith P. Shine and Agnieszka Skowron



PAPERS

1741

Chemical characterization of urban aerosols in Abidjan and Korhogo (Côte d'Ivoire) from 2018 to 2020 and the identification of their potential emission sources

Sylvain Gnamien,* Cathy Liousse, Sékou Keita, Siélé Silué, Julien Bahino, Eric Gardrat, Mohamed Kassamba-Diaby, Arsène Ochou and Véronique Yoboué



Executive Editor

Emma Eley

Editorial Production Manager

Sarah Whitbread

Deputy Editor

Jon Ferrier

Assistant Editors

Jamie Purcell, Alexander John, Emily Ellison, Jack Pitchers, Clare Fitzgerald

Editorial Assistant

Alex Holiday

Publishing Assistant

Lee Colwill

Publisher

Neil Hammond

For queries about submitted papers, please contact Sarah Whitbread, Editorial Production Manager in the first instance. E-mail: esatmospheres@rsc.org

For pre-submission queries please contact Emma Eley, Managing Editor.

Email: esatmospheres-rsc@rsc.org

Environmental Science: Atmospheres (electronic:

ISSN 2634-3606) is published 12 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

Environmental Science: Atmospheres is a Gold Open Access journal and all articles are free to read.

Please email orders@rsc.org to register your interest or contact Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK Tel +44 (0)1223 432398; E-mail: orders@rsc.org

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office: Burlington House, Piccadilly, London W1J 0BA, UK, Telephone: +44 (0) 207 4378 6556.

Advertisement sales:

Tel +44 (0) 1223 432246; Fax +44 (0) 1223 426017;

E-mail advertising@rsc.org

For marketing opportunities relating to this journal, contact marketing@rsc.org

Environmental Science: Atmospheres

Interdisciplinary open access journal advancing the understanding of atmospheric science and related challenges.

rsc.li/esatmospheres

Led by Neil Donahue (Carnegie Mellon University), *Environmental Science: Atmospheres* is a gold open access journal committed to bringing the wider environmental science and climate change communities together in a fresh, open approach.

Editorial Board

Editor-in-Chief

Neil Donahue, Carnegie Mellon University, USA

Associate Editors

Claudia Mohr, Paul Scherrer Institute, Switzerland

Nonne Prisle, University of Oulu, Finland

Lin Wang, Fudan University, China
Stephen Klippenstein, Argonne National Laboratory, USA

Tzung-May Fu, Southern University of Science and Technology, China

Members

Joel Thornton, University of Washington, USA

Dwayne Heard, University of Leeds, UK

Advisory Board

Katye Altieri, University of Cape Town, South Africa
Federico Bianchi, University of Helsinki, Finland
Muhammad Bilal, University of Wisconsin—Madison, USA
William Bloss, University of Birmingham, UK
Ann Marie Carlton, University of California Irvine, USA
Peter DeCarlo, Johns Hopkins University, USA
Aijun Ding, Nanjing University, China
Delphine Farmer, Colorado State University, USA
Barbara Finlayson-Pitts, University of California, Irvine, USA
Christian George, CNRS, University Claude

Bernard Lyon 1, France
Marianne Glasius, Aarhus University, Denmark
Mattias Hallquist, University of Gothenburg, Sweden
Thomas Hanisco, NASA Goddard Space Flight Center, USA
Lucy Hutya, Boston University, USA
Maria Kanakidou, University of Crete, Greece
Prashant Kumar, University of Surrey, UK
Tuhin Kumar Mandal, National Physical Laboratory, India
Randall Martin, Washington University in St Louis, USA
Ottmar Möhler, Karlsruhe Institute of Technology, Germany
Yujing Mu, Research Center for Eco-Environmental Sciences, Chinese Academy

of Sciences, China
Patricia K. Quinn, National Oceanic and Atmospheric Administration, Pacific Marine Environment Laboratory, USA
Andrew Rickard, University of York, UK
Ilona Riipinen, Stockholm University, Sweden
Alfonso Saiz-Lopez, CSIC, Spain
Sachchida Nand Tripathi, Indian Institute of Technology, Kanpur, India
Ying I. Tsai, Chia Nan University of Pharmacy and Science, Taiwan
Marina Vance, University of Colorado Boulder, USA
Bingbing Wang, Xiamen University, China
Shuxiao Wang, Tsinghua University, China

Information for Authors

Full details on how to submit material for publication in Environmental Science: Atmospheres are given in the Instructions for Authors (available from <http://www.rsc.org/authors>). Submissions should be made via the journal's homepage: rsc.li/esatmospheres

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)–Reproduced by permission of the Royal Society of Chemistry.

This journal is © The Royal Society of Chemistry 2023. Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA.

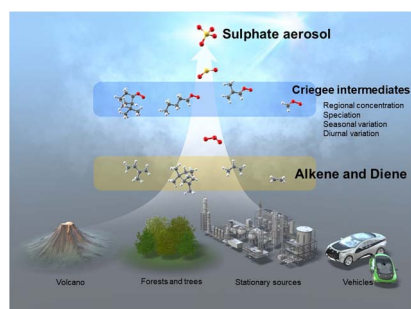
Registered charity number: 207890



1758

Urban-scale analysis of the seasonal trend of stabilized-Criegee intermediates and their effect on sulphate formation in the Greater Tokyo Area

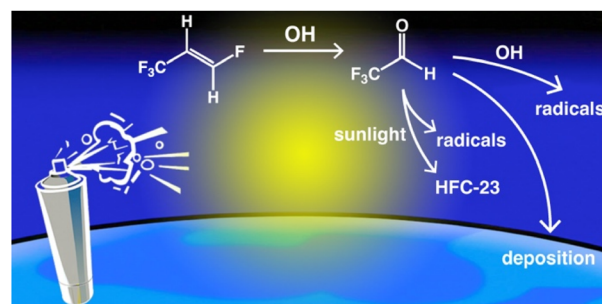
Yuya Nakamura, Hiroo Hata* and Kenichi Tonokura*



1767

Assessing the atmospheric fate of trifluoroacetaldehyde (CF_3CHO) and its potential as a new source of fluoroform (HFC-23) using the AtChem2 box model

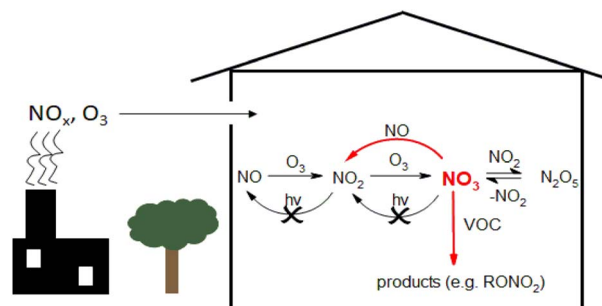
Maria Paula Pérez-Peña,* Jenny A. Fisher,* Christopher Hansen and Scott H. Kable



1778

NO_3 reactivity measurements in an indoor environment: a pilot study

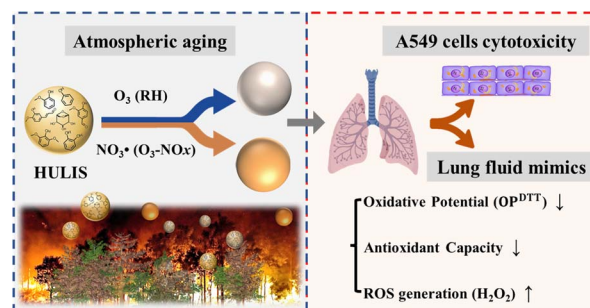
Patrick Dewald, Jos Lelieveld and John N. Crowley*



1791

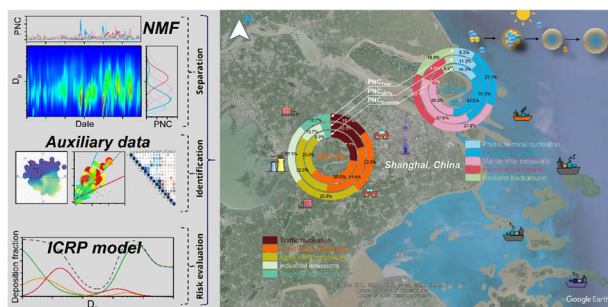
Atmospheric aging modifies the redox potential and toxicity of humic-like substances (HULIS) from biomass burning

Chunlin Li, Diego Calderon-Arrieta, Michal Pardo, Dongmei Cai, Alexander Laskin, Jianmin Chen and Yinon Rudich*



PAPERS

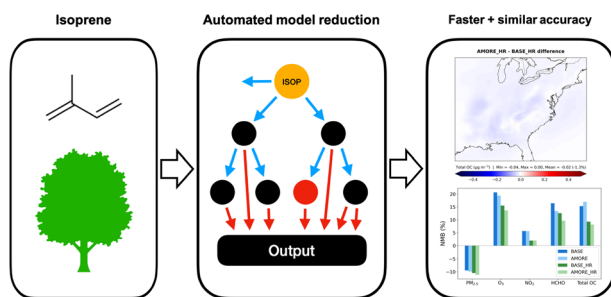
1805



Traffic, marine ships and nucleation as the main sources of ultrafine particles in suburban Shanghai, China

Qingsong Wang, Juntao Huo, Hui Chen,^{*} Yusen Duan,^{*} Qingyan Fu, Yi Sun, Kun Zhang, Ling Huang, Yangjun Wang, Jiani Tan, Li Li,^{*} Lina Wang, Dan Li, Christian George, Abdelwahid Mellouki and Jianmin Chen

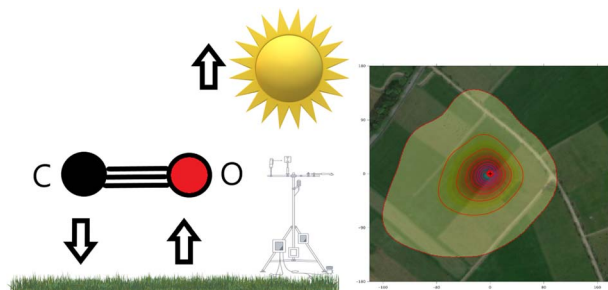
1820



Implementation and evaluation of the automated model reduction (AMORE) version 1.1 isoprene oxidation mechanism in GEOS-Chem

Benjamin Yang,^{*} Forwood C. Wiser, V. Faye McNeill, Arlene M. Fiore, Madankui Tao, Daven K. Henze, Siddhartha Sen and Daniel M. Westervelt^{*}

1834



Carbon monoxide fluxes measured using the eddy covariance method from an intensively managed grassland in Ireland

Murphy R. M.,^{*} Lanigan G., Martin D. and Cowan N.

CORRECTION

1847

Correction: Ring-opening yields and auto-oxidation rates of the resulting peroxy radicals from OH-oxidation of α -pinene and β -pinene

Ben H. Lee, Siddharth Iyer, Theo Kurtén, Jonathan G. Varelas, Jingyi Luo, Regan J. Thomson and Joel A. Thornton^{*}

