



On the lifetime of nitrogen oxides at Earth's surface

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Abstract: Textbooks offer descriptions of two limiting cases governing the chemistry of the atmosphere and the lifetime of nitrogen oxides. In remote environments at low NO_x ($\text{NO}_x = \text{NO} + \text{NO}_2$), the NO_x lifetime is long and is set by the reaction of OH with NO_2 to form HNO_3 . In urban environments at high NO_x , the lifetime is again set by the reaction of OH with NO_2 . In this talk I discuss how these limiting cases provide little insight into the intermediate regime that is most common on the continents. In this regime the lifetime of NO_x is governed by the reaction of RO_2 with NO.

Biography: Ronald Cohen earned a BA with from Wesleyan University (1985) and a Ph.D in Chemistry from UC Berkeley (1991) working on high resolution spectroscopy of molecular clusters and radicals. As a postdoctoral fellow and research associate at Harvard he worked on stratospheric photochemistry (1991-1996). He joined the UC Berkeley faculty in 1995 where he is currently a Professor of Chemistry, Professor of Earth & Planetary Science, and Associate Dean for Research Administration. He is also a faculty scientist at the Lawrence Berkeley National Laboratory. Professor Cohen's research focuses on developing and applying new experimental and modeling strategies for understanding the chemical composition of the Earth's atmosphere now and in the past and for predicting future changes.



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10:00 AM – 11:00 AM

Lash Miller, Room 158

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