

Virtual ACOM Seminar

NO_x lifetime and background concentrations during the COVID-19 pandemic: a first look from TROPOMI

Joshua Laughner

California Institute of Technology

Date: Monday, March 1, 2020, 3:30pm – 4:30pm (MT)

Link: <https://operations.ucar.edu/live-acom>

ABSTRACT

The reductions in NO_x emissions during the COVID-19 pandemic offer an opportunity to test what regime governs chemistry in our present-day urban areas by probing how NO_x lifetime changed between 2019 and 2020. In this talk, I will discuss some very early results from applying the exponentially modified Gaussian (EMG) fitting approach to extract urban NO_x lifetime and emissions from TROPOMI data. Initial results indicate that all cities studied lie in the NO_x-limited regime, and COVID-19-like emissions reductions push them further into this regime; however, changes in background NO_x may complicate this model.