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The severe ozone smog episode in Mexico-City in March 2016

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During the period March 12-17, 2016, Mexico-City experienced its most severe smog episode since 2007. The Metropolitan Index of Air Quality (IMECA) for Mexico-City surpassed the value of 200, indicating an extremely bad situation. Hourly peak values for both, NO_2 and O_3, exceeded 200 ppb, while for CO more than 2 ppm were observed. Restrictions on traffic and industrial activities, among other emergency measures, were imposed. Over the last decade comprehensive emission reductions have been implemented which likewise led to a significant reduction in O_3 exceedance days. However, the March 2016 event was preceded by the Mexican's Supreme Court's decision to rule out vehicular restrictions based on the car's age which caused an increase of 20% in the traffic fleet and likely increased O_3 precursor emissions (Velasco and Retama, 2017). This presentation will describe the anatomy of this severe air quality episode and will look into the specific meteorological conditions in the basin of Mexico-City favoring this smog episode. In particular an analysis of boundary layer conditions retrieved from continuous remote sensing techniques will be discussed.