

Abstract Submitted
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Stratospheric Ozone and Dynamical Systems¹ FRANCISCO J. URIBE, ROSA MARIA VELASCO, ERNESTO PEREZ-CHAVELA, Universidad Autonoma Metropolitana — We consider the Chapman mechanism for stratospheric ozone dynamics. The resulting nonlinear differential equations are studied from the point of view of the theory of dynamical systems. In particular we calculate and analyze the nature of the critical points and show that the region in which the concentrations are non-negative is a positively invariant set, meaning that initial conditions with non-negative concentrations always give non-negative concentrations. Poincaré compactification is used to elucidate the global flow. Comments about the inclusion of nitrogen oxides are also given.

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