

ER-2 MEASUREMENTS OF ClO AND ClOOCl: IMPLICATIONS FOR THEORY AND OBSERVATION OF OZONE LOSS

R. J. Salawitch (1), R. M. Stimpfle (2), D. M. Wilmouth (2), J. G. Anderson (2); T. Canty (1)

(1) Jet Propulsion Laboratory, California Institute of Technology, (2) Harvard University; Ross.Salawitch@jpl.nasa.gov/ Fax: 818-354-5148

Observations of ClO and ClOOCl (ClO_x) obtained in the cold Arctic stratosphere during the winter of 1999-2000 provide an unprecedented opportunity to test our understanding of the twilight chemistry of ClO_x , to define how well the observed chemical loss rate of ozone agrees with models constrained by observed levels of ClO_x , and to examine (together with observations of HCl, ClONO_2 , and CFCs) the chlorine budget. This presentation is an update to a previous presentation at EGS on the same topic (Salawitch et al., April 2001), reflecting final calibrations of the in-situ resonance fluorescence measurements of ClO and ClOOCl. We use these measurements, together with a diurnal steady state model, to assess our understanding of polar ozone chemistry.