

KINETICS OF THE ETHYLPEROXY SELF REACTION AND REACTION WITH HO<sub>2</sub> USING FREQUENCY MODULATED NEAR IR SPECTROSCOPY

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Kinetics of the C<sub>2</sub>H<sub>5</sub>O<sub>2</sub> + C<sub>2</sub>H<sub>5</sub>O<sub>2</sub> and C<sub>2</sub>H<sub>5</sub>O<sub>2</sub> + HO<sub>2</sub> reactions have been studied using simultaneous FM detection of the 3v<sub>1</sub> OH overtone stretch of HO<sub>2</sub> and direct UV absorption of C<sub>2</sub>H<sub>5</sub>O<sub>2</sub> at 250nm. Temperature dependence of the reactions will be discussed. Ab initio calculations have been performed on the reaction path and comparisons will be made to observed rate constants.