REACTION OF OZONE WITH OLEIC ACID AT THE AIR-LIQUID INTERFACE - REAL TIME STUDIES USING BROAD BANDWIDTH SUM FREQUENCY GENERATION SPECTROSCOPY

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Oleic acid, a common organic pollutant in the troposphere, readily reacts with ozone. While the gas phase reaction has been extensively studied, relatively little is known about the reaction mechanism in the condensed phase. In particular the importance of the air-liquid interface in this reaction is not well understood. It is important to address this question since air-liquid interfaces have been found to play an important part in the heterogeneous atmospheric chemistry of aerosols. The reaction of oleic acid with ozone was studied at the air-liquid interface using broad bandwidth sum frequency generation spectroscopy. The results of these studies conducted on neat oleic acid as well as its monolayer spread on water will be discussed.