

TRACE ATMOSPHERIC DETECTION OF HCHO VIA FIBER LASER-INDUCED FLUORESCENCE DURING BEARPEX 2009

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Formaldehyde (HCHO) plays an important role in atmospheric chemistry as it is an oxidation product of volatile organic compounds (VOCs), a major source for  $HO_x$  radicals. We will present results from field measurements taken during Biosphere Effects on Aerosols and Photochemistry Experiment (BEARPEX) 2009 using Fiber Laser-Induced Fluorescence (FILIF) detection of HCHO. Central to the FILIF technique is the first of a new class of UV fiber lasers from NovaWave Technologies. By using this narrow bandwidth (< 300 MHz) UV laser to excite a rotational feature in the  $4_0^1 A^1 A_2 \leftarrow X^1 A_1$  band at 353 nm, this technique is capable of very high HCHO sensitivity and selectivity. The combination of low power consumption and weight, compact size, and ruggedness, provides an instrument ideally suited to field measurements.