

Real-Time Size and Composition Aerosol Measurements on the NSF C-130 Aircraft and Integrated Data Analysis

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This project supports the deployment of an aerosol mass spectrometer (AMS) with time-of-flight capability on the NSF C-130 aircraft during the 2006 Megacities Impacts on Regional and Global Environments (MIRAGE) Campaign to be conducted in Mexico City and the Intercontinental and Megacity Pollution Experiment (IMPEX). This project is being jointly supported by NSF and NASA.

The AMS instrument will deliver size-resolved information on the chemical composition of aerosols. The analysis of these data will yield information on the sources and of the aerosols and their transformations as they undergo long-range transport. Special attention will be given to the organic content of the aerosols, by combining data by several investigators making airborne measurements, ground-based measurements, and models including box models and back-trajectory analysis.

This information will address important questions about gas/aerosol evolution and properties and their climatic effects. The award will contribute to the education of a graduate student and a post-doctoral researcher.