Curriculum Vitae

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Educatio*n*

1. Ph.D, Physics, Geophysical Institute, University of Alaska, Fall 1989-Mar 1993.
2. M.Sc., Space Physics, Wuhan University, Wuhan, China, Sept. 1984-July 1987.
3. B.Sc., Radio Wave Propagation and Antenna, Wuhan University, Wuhan, China, Sept. 1980-July 1984.

Work Experience

1. Professor (tenured), Atmospheric Sciences Research Center; Adjunct professor in Dept. of Environmental and atmospheric sciences, SUNY at Albany, Sept. 2000-present, Research on radiative transfer and remote sensing, and instrument development.
2. Senior Research Scientist, ASRC, SUNY at Albany, July 1996-2000, Research on radiative transfer, remote sensing, data analysis of various radiation measurements (surface and Satellite).
3. Post-doctoral, ASRC, SUNY at Albany, June 1994-1996, Research on radiative transfer and remote sensing.
4. Postdoctoral Fellow, Geophys. Inst., University of Alaska, June 1993-May 1994, Research on Auroral physics and chemistry, Data analysis of Incoherent-Scatter Radar.
5. Assistant Professor, Dept. of Space Physics, Wuhan University, May 1987-Aug. 1989

Research Interests

Climate change alters the radiation, temperature, sea surface pressure, and precipitation distributions, and also forces terrestrial vegetation and ecological systems to adapt. Great attention has being paid to potential aerosol impacts on cloud microphysical and radiative properties, as the indirect effect of aerosols currently produces the greatest uncertainty in climate predictions among all known climate forcing mechanisms. Large climate feedback uncertainties limit the accuracy in predicting the response of Earth's climate to the atmospheric CO_2 increase. Also, key physical and dynamical processes associated with severe weather (e.g., hurricanes and tornados) are neither fully understood nor characterized, and so high priority is placed on measurements that will contribute to successful forecasts of such events. To address several key issues, my research group works on the problems of atmospheric physics ranging from the ionosphere to the earth's surface by using numerical models and active and passive remote sensing from multiple platforms (satellite, airborne, and surface-based). My research efforts are toward:

1. Developing and improving radiative transfer models for the atmosphere, driven by the needs of Global Climate Models (GCMs) to predict changes in the energy budget and surface ultraviolet irradiances driven by anthropogenic trace gas emissions;
2. Developing remote sensing techniques by synergizing visible, infrared, and microwave measurements for understanding global climate, including retrievals of aerosol and cloud optical properties, terrestrial vegetation state and evaportranspiration; and precipitation and lantern heat;
3. Improving various forecasting and climate models and integrating multi-platform observation and model simulations for understanding feedback mechanisms associated with water, energy, and carbon cycles, such as hurricane forecasting; aerosol-cloud-precipitation interaction; and atmosphere-terrestrial ecosystem exchange;
4. Developing various instruments, such as multi-scan spectral radiometers, a high-resolution oxygen A-band and water vapor band spectrometer (HAWS), and a DIfferential Absorption Radar for Barometry (DIAR-Bar)