

Brian Hannon Kahn

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Education:

- Ph.D, Atmospheric Sciences, University of California at Los Angeles (UCLA) Department of Atmospheric and Oceanic Sciences (DAOS) (2004)
- M.S., Atmospheric Sciences, UCLA DAOS (2001)
- B.S. (with honors), Meteorology, San Jose State University (SJSU) (1995)

Experience:

- Staff Scientist, JPL (2009–)
- Assistant Researcher IV, JIFRESSE/UCLA (2008)
- Visiting Researcher, JIFRESSE/UCLA (2007; 2009–)
- NASA Post-doctoral Program (NPP) Fellow (2005–2008)
- Academic Part-Time Researcher, AIRS Science Integration Team (2003–2005)
- Graduate Research Assistant to Dr. Annmarie Eldering (2000–2004)
- Teaching Fellow, Air Pollution and the Atmospheric Environment, UCLA (1999–2002)
- On-Air Personality for *Pulse of This Planet*, KKUP, 91.5 FM, Cupertino, CA (1998–2004)
- Lab Instructor, Introduction to Physics, SJSU (1997–1999)
- Lecturer, Introduction to Weather and Climate, SJSU (1997–1999)
- Exchange Student, Urals State University, Ekaterinburg, Russia (1996–1997)
- Internship (Programmer), NWSFO Anchorage, Alaska (Summers of 1994 and 1995)

Honors and Awards:

- NPP Fellowship Award (2005–2008)
- NASA Earth Systems Science (ESS) Fellowship (2001–2004)
- Brian Bosart Award, UCLA DAOS (2001)
- Neiburger Teaching Award, UCLA DAOS (2000)
- Scholarship to attend Urals State University, Ekaterinburg, Russia (1996–1997)

Professional Activities:

- Member, CALIPSO/CloudSat Science Team (2008–present)
- Member, American Geophysical Union (AGU) and the American Meteorological Society (AMS)
- Lead cloud scientist for the NASA AIRS project (2005–present)
- Reviewer for Atmosphere-Ocean, Atmospheric Chemistry and Physics, Dynamics of Atmospheres and Oceans, Geophysical Research Letters, IEEE Geoscience and Remote Sensing Letters, Journal of Applied Meteorology, Journal of Applied Meteorology and Climatology, Journal of Atmospheric and Oceanic Technology, the Journal of the Atmospheric Sciences, Journal of Geophysical Research–Atmospheres, Remote Sensing of Environment, and reviewer of NASA and ARM proposals
- Post-doctoral advisor to Dr. Mathias Schreier (UCLA/JIFRESSE)

Funded proposals:

- “Upper tropospheric clouds: Developing a global long-term dataset with quantitative error estimates”, NASA EOS Terra/Aqua/Acrimsat, Annmarie Eldering (PI), Brian Kahn (Science PI), April 2008 – March 2011.
- “A Multi-Sensor Water Vapor Climate Data Record Using Cloud Classification”, NASA MEASURES, Eric Fetzer (PI), Brian Kahn (Co-I), April 2008 – March 2013.
- “Investigation of tropical cyclone intensity change and genesis with EOS observations and cloud-resolving HWRf model”, NASA Hurricane Science Research Program, Bin Wang (PI), Brian Kahn (Co-I), April 2009 – March 2013.

Refereed Publications:

- 1) Yue, Q., **B. H. Kahn**, E. J. Fetzer, and J. Teixeira (2011), Relationship between oceanic boundary layer clouds and lower tropospheric stability observed by AIRS, CloudSat, and CALIOP, *J. Geophys. Res.* (to be submitted)
- 2) Ou, S.-C., **B. H. Kahn**, K. N. Liou, Y. Takano, M. M. Schreier, and Q. Yue (2011), Retrieval of cirrus cloud properties from the Atmospheric Infrared Sounder: The k -coefficient approach combined with SARTA plus delta-four stream approximation, *J. Geophys. Res.* (submitted)
- 3) **Kahn, B. H.**, S. L. Nasiri, M. M. Schreier, and B. A. Baum (2011), Impacts of sub-pixel cloud heterogeneity on infrared thermodynamic phase assessment, *J. Geophys. Res.* (submitted)
- 4) Casey, S. P., E. J. Fetzer, and **B. H. Kahn** (2011), Revised identification of tropical oceanic cumulus congestus as viewed by CloudSat, *Atmos. Chem. Phys. Discuss.* (submitted)
- 5) Wong, S., E. J. Fetzer, **B. H. Kahn**, B. Tian, B. Lambriksen, and H. Ye (2011), Closing the global water budget with AIRS water vapor, MERRA winds and evaporation, and TRMM precipitation, *J. Climate* (sub judice)
- 6) **Kahn, B. H.**, J. Teixeira, E. J. Fetzer, A. Gettelman, S. M. Hristova-Veleva, X. Huang, A. K. Kochanski, M. Köhler, S. K. Krueger, R. Wood, and M. Zhao (2011), Temperature and water vapor variance scaling in global models: Comparisons to satellite and aircraft data, *J. Atmos. Sci.* (sub judice)
- 7) Nasiri, S. L., V. T. Dang, **B. H. Kahn**, E. J. Fetzer, E. M. Manning, M. M. Schreier, and R. A. Frey (2011), Comparing MODIS and AIRS infrared-based cloud retrievals, *J. Appl. Meteor. Clim.*, doi: 10.1175/2010JAMC2603.1 (in press)
- 8) Martins, J. P. A., J. Teixeira, P. M. M. Soares, P. M. A. Miranda, **B. H. Kahn**, V. Dang, F. W. Irion, E. Fetzer and E. F. Fishbein (2010), Infrared sounding of the trade-wind boundary layer: AIRS and the RICO experiment, *Geophys. Res. Lett.* **37**, L24806, doi:10.1029/2010GL045902.
- 9) Lee, S., **B. H. Kahn**, and J. Teixeira (2010), Characterization of liquid water content distributions from CloudSat, *J. Geophys. Res.*, **115**, D20203, doi:10.1029/2009JD013272.
- 10) Schreier, M. M., **B. H. Kahn**, A. Eldering, D. A. Elliott, E. Fishbein, F. W. Irion, and T. S. Pagano (2010), Radiance comparisons of MODIS and AIRS using spatial response information, *J. Atmos. Ocean. Tech.*, **27**, 1331–1342, doi: 10.1175/2010JTECHA1424.1.

- 11) Su, H., J. H. Jiang, J. D. Neelin, **B. H. Kahn**, J. W. Waters, N. J. Livesey, and Y. Gu (2010), Reply to comment by R. Rondanelli and R. S. Lindzen on “Variations in convective precipitation fraction and stratiform area with sea surface temperature,” *J. Geophys. Res.*, **115**, D06203, doi:10.1029/2009JD012872.
- 12) **Kahn, B. H.**, and J. Teixeira (2009), A global climatology of temperature and water vapor variance scaling from the Atmospheric Infrared Sounder, *J. Climate*, **22**, 5558–5576, doi: 10.1175/2009JCLI2934.1.
- 13) **Kahn, B. H.**, A. Gettelman, A. Eldering, E. J. Fetzer, and C. K. Liang (2009), Cloudy and clear sky relative humidity distributions in the upper troposphere observed by the A-train, doi:10.1029/2009JD011738, *J. Geophys. Res.*, **114**, D00H02, doi:10.1029/2009JD011738.
- 14) Wu, D. L., S. A. Ackerman, R. Davies, D. J. Diner, M. J. Garay, **B. H. Kahn**, B. C. Maddux, C. M. Moroney, G. L. Stephens, J. P. Veefkind, and M. A. Vaughan (2009), Vertical distributions and relationships of cloud occurrence frequency as observed by MISR, AIRS, MODIS, OMI, CALIPSO, and CloudSat, *Geophys. Res. Lett.*, **36**, L09821, doi:10.1029/2009GL037464.
- 15) Davis, S. M., L. M. Avallone, **B. H. Kahn**, K. G. Meyer, and D. Baumgardner (2009), Comparison of airborne in situ measurements and MODIS retrievals of cirrus cloud optical and microphysical properties during the Midlatitude Cirrus Experiment (MidCiX), *J. Geophys. Res.*, **114**, D02203, doi:10.1029/2008JD010284.
- 16) Fetzer, E. J., W. G. Read, D. Waliser, **B. H. Kahn**, B. Tian, H. Vömel, F. W. Irion, H. Su, A. Eldering, M. de la Torre-Juarez, J. Jiang, and V. Dang (2008), Comparison of upper tropospheric water vapor observations from the Microwave Limb Sounder and Atmospheric Infrared Sounder, *J. Geophys. Res.*, **113**, D22110, doi:10.1029/2008JD010000.
- 17) Nasiri, S. L., and **B. H. Kahn** (2008), Limitations of bispectral infrared cloud phase determination and potential for improvement, *J. Appl. Meteor. Climatol.*, **47**, 2895–2910.
- 18) **Kahn, B. H.**, and D. M. Sinton (2008), A preferred scale for warm core instability in a non-convective moist basic state, *J. Atmos. Sci.*, **65**, 2907–2921.
- 19) Su, H., J. H. Jiang, Y. Gu, J. D. Neelin, **B. H. Kahn**, D. Feldman, Y. L. Yung, J. W. Waters, N. J. Livesey, M. L. Santee, and W. G. Read (2008), Variations of tropical upper tropospheric clouds with sea surface temperature and implications for radiative effects, *J. Geophys. Res.*, **113**, D10211, doi:10.1029/2007JD009624.
- 20) **Kahn, B. H.**, C. K. Liang, A. Eldering, A. Gettelman, Q. Yue, and K. N. Liou (2008), Tropical thin cirrus and relative humidity observed by the Atmospheric Infrared Sounder, *Atmos. Chem. Phys.*, **8**, 1501–1518.
- 21) **Kahn, B. H.**, M. T. Chahine, G. L. Stephens, G. G. Mace, R. Marchand, Z. Wang, C. D. Barnet, A. Eldering, R. E. Holz, R. E. Kuehn, and D. G. Vane (2008), Cloud-type comparisons of AIRS, CloudSat, and CALIPSO cloud height and amount, *Atmos. Chem. Phys.*, **8**, 1231–1248.
- 22) Yue, Q., K. N. Liou, S. C. Ou, **B. H. Kahn**, P. Yang, and G. G. Mace (2007), Interpretation of AIRS data in thin cirrus atmospheres based on a fast radiative transfer model, *J. Atmos. Sci.* **64**, 3827–3842.

- 23) Weisz, E., J. Li, W. P. Menzel, A. K. Heidinger, **B. H. Kahn**, and C.-Y. Liu (2007), Comparison of AIRS, MODIS, CloudSat and CALIPSO cloud top height retrievals, *Geophys. Res. Lett.*, **34**, L17811, doi:10.1029/2007GL030676.
- 24) **Kahn, B. H.**, E. Fishbein, S. L. Nasiri, A. Eldering, E. J. Fetzer, M. J. Garay, and S.-Y. Lee (2007), The radiative consistency of Atmospheric Infrared Sounder and Moderate Resolution Imaging Spectroradiometer cloud retrievals, *J. Geophys. Res.*, **112**, D09201, doi:10.1029/2006JD007486.
- 25) **Kahn, B. H.**, A. Eldering, A. J. Braverman, E. J. Fetzer, J. H. Jiang, E. Fishbein, and D. L. Wu (2007), Toward the characterization of upper tropospheric clouds using Atmospheric Infrared Sounder and Microwave Limb Sounder observations, *J. Geophys. Res.*, **112**, D05202, doi:10.1029/2006JD007336.
- 26) Tinetti, G., V. S. Meadows, D. Crisp, N. Kiang, **B. H. Kahn**, E. Bosc, E. Fishbein, T. Velusamy, and M. Turnbull (2006), Detectability of planetary characteristics in disk-averaged spectra II: Synthetic spectra and light-curves of Earth, *Astrobiology*, **6**, 881–900.
- 27) **Kahn, B. H.**, K. N. Liou, S. -Y. Lee, E. F. Fishbein, S. DeSouza-Machado, A. Eldering, E. J. Fetzer, S. E. Hannon, and L. L. Strow (2005), Nighttime cirrus detection using Atmospheric Infrared Sounder channels and total column water vapor, *J. Geophys. Res.*, **110**, doi:10.1029/2004JD005430.
- 28) Eldering, A., **B. H. Kahn**, F. P. Mills, F. W. Irion, H. M. Steele, and M. R. Gunson (2004), Vertical profiles of aerosol volume from high-spectral-resolution infrared transmission measurements II. Results, *J. Geophys. Res.*, **109**, D20201, doi:10.1029/2004JD004623.
- 29) Braverman, A., and **B. Kahn** (2004), Visual data mining for quantized, spatial data. Invited paper, Proceedings in Computational Statistics, Physica-Verlag/Springer.
- 30) **Kahn, B. H.**, A. Eldering, M. Ghil, S. Bordoni, and S. A. Clough (2004), Sensitivity analysis of cirrus cloud properties from high-resolution infrared spectra. Part I: Methodology and synthetic cirrus, *J. Climate*, **17**, 4856–4870.
- 31) Steele, H. M., A. Eldering, B. Sen, G. C. Toon, F. P. Mills, and **B. H. Kahn** (2003), Retrieval of Stratospheric Aerosol Size and Composition Information from Solar Infrared Transmission Spectra, *Appl. Opt.*, **42**, 2140–2154.
- 32) **Kahn, B. H.**, A. Eldering, S. A. Clough, E. J. Fetzer, E. F. Fishbein, M. R. Gunson, S. -Y. Lee, P. F. Lester, and V. J. Realmuto (2003), Near micron-sized cirrus cloud particles in high-resolution infrared spectra: An orographic case study, *Geophys. Res. Lett.*, **30**(8), 1441, doi:10.1029/2003GL016909.
- 33) **Kahn, B. H.**, A. Eldering, F. W. Irion, F. P. Mills, B. Sen, and M. R. Gunson (2002), Cloud identification in Atmospheric Trace Molecule Spectroscopy infrared occultation measurements, *Appl. Opt.*, **41**, 2368–2380.