Biographical Sketch

Greg Lucas
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(a) Professional Preparation

University of Wisconsin	Madison, WI	Nuclear Engineering	BS 2010
University of Wisconsin	Madison, WI	Medical Physics	MS 2010
University of Colorado	Boulder, CO	Aerospace Engineering	PhD 2017
United States Geological Survey	Golden, CO	Postdoctoral Fellowship	2017-2019

(b) Appointments

2019 – present. Professional Research Assistant, University of Colorado Boulder, Laboratory for Atmospheric and Space Physics
2017 – 2019. Mendenhall Postdoctoral Fellow, United States Geological Survey, Geomagnetism Program
2010 – 2013. Member of the Technical Staff, Sandia National Laboratories

(c) Selected Publications

1) **Lucas, G. M.**, Love, J. J., Kelbert, A., Bedrosian, P. A., Rigler, E. J. (2020). 100-year Geoelectric Hazard Analysis for the U.S. High-Voltage Power Grid. Space Weather, 18, doi:10.1029/2019SW002329
2) **Lucas, G. M.**, Love, J. J., & Kelbert, A. (2018). Calculation of voltages in electric power transmission lines during historic geomagnetic storms: An investigation using realistic earth impedances. Space Weather, 16, 181– 195, doi: 10.1002/2017SW001779.
3) **Lucas, G. M.**, Thayer, J. P., and Deierling, W. (2017), Statistical analysis of spatial and temporal variations in atmospheric electric fields from a regional array of field mills, J. Geophys. Res. Atmos., 122, 1158– 1174, doi:10.1002/2016JD025944.
4) **Lucas, G. M.**, Baumgaertner A. J. G., Thayer, J. P. (2015), A global electric circuit model within a community climate model, J. Geophys. Res. Atmos., 120, 12,054–12,066, doi:10.1002/2015JD023562.
5) Baumgaertner, A. J. G., Thayer, J. P., Neely, R. R, and **Lucas, G.** (2013), Toward a comprehensive global electric circuit model: Atmospheric conductivity and its variability in CESM1(WACCM) model simulations, J. Geophys. Res. Atmos., 118, 9221-9232, doi:10.1002/jgrd.50725.

(d) Synergistic Activities

- Leading the development of the IMAP mission's real-time data processing system (2020-present)
- Lead developer of a Cloud-based testbed for Space Weather models (2019-present)
- Mentor and advisor for undergraduate REU students (2020-present)
- Creator of the GEC model within WACCM, WACCM-GEC (2014-2017)
- Creator and maintainer of open-source magnetic field data processing codes (2017-present)
- Contributor and maintainer of major open-source Python software packages (2018-present)
- Taught and developed problems for a supplementary engineering course focused on retaining freshman and sophomore engineering students (2008-2010)