

Curriculum Vitae
JOSEPH G. HAWKINS

Professor
Electrical and Computer Engineering Dept.
University of Alaska Fairbanks

EDUCATION

1988	Ph.D.	Electrical Engineering	Stanford University
1984	M.S.	Electrical Engineering	Stanford University
1982	B.S.	Electrical Engineering	U. of Alaska Fairbanks
1982	B.S.	Mathematics	U. of Alaska Fairbanks

EXPERIENCE

2000-present	Professor, Electrical Eng.;	U. of Alaska Fairbanks.
1996-1999	Head, Electrical Engineering Dept.;	U. of Alaska Fairbanks.
1994-2000	Associate Professor, Electrical Eng.;	U. of Alaska Fairbanks.
1991-2003	Director, Alaska Space Grant Program;	U. of Alaska Fairbanks.
1987-1994	Assistant Professor, Electrical Eng.;	U. of Alaska Fairbanks.
1982-1987	Grad. Res. Asst; Space, Telecom., & Radioscience Lab.,	Stanford U.

PROFESSIONAL SOCIETIES, AWARDS, and HONORS

Fellowship from Japan Society for Promotion of Science (1994)
Member Institute of Electrical and Electronics Engineers (1988)
Member of American Geophysical Union (1982)
Member Tau Beta Pi Engineering Honor Society (1981)
Member Eta Kappa Nu Electrical Engineering Honor Society (1994)
Undergraduate Mathematics Scholarship Award, University of Alaska Fairbanks (1979)

PUBLICATIONS

J. Hawkins, Bruce Johnson, Charles Mayer, Vikas Sonwalkar, Arun Venkatasubramanian, *Anechoic Chamber Instrumentation and Calibration Results*, Subcontractor Report to Kachemak Research Development Inc., Prime Contract N00164-05-D06653, U.S. Navy, August 10, 2005.

V. Sonwalkar, A. Venkatasubramanian, J. Hawkins, B. Satavalekar, B. Johnson, *Analytic Models and Simulations of Ultra Wideband Communication Systems*, Subcontractor Report to Kachemak Research Development Inc., Prime Contract N00164-05-D06653, U.S. Navy, August 10, 2005.

J. Hawkins, V. Sonwalkar, B. Satavalekar, B. Johnson, J. Li, A. Venkatasubramanian, *Measurement and Modeling of Ultra Wideband Communication and Positioning Systems*, Subcontractor Final Report, Work Directive No. KRD-003, Section 3, U.S. Army TARDEC, October 11, 2004c.

J. Hawkins, V. Sonwalkar, B. Satavalekar, B. Johnson, J. Li, A. Venkatasubramanian, *Measurement and Modeling of Ultra Wideband Communication and Positioning Systems*, Subcontractor Progress Report, Work Directive No. KRD-003, Section 3, U.S. Army TARDEC, June 7, 2004b.

J. Hawkins, V. Sonwalkar, B. Satavalekar, B. Johnson, J. Li, A. Venkatasubramanian, *Measurement and Modeling of Ultra Wideband Communication and Positioning Systems and Testing and Modification of the ODIS Wireless Video Relay System*, Subcontractor Report, Work Directive No. KRD-003, Section 2, U.S. Army TARDEC, March 18, 2004a.

J. Hawkins, V. Sonwalkar, B. Satavalekar, B. Johnson, A. Venkatasubramanian, *Diagnostic Testing of the ODIS Communication System*, Subcontractor Report, Work Directive No. KRD-003, Section 1, U.S. Army TARDEC, September 30, 2003.

Hawkins, J. G., Evaluation and Modeling of Ultra Wideband (UWB) Communication Systems for Unmanned Ground Vehicles, Final Subcontract Report to Kachemak Research Development, Inc., GSA Task Order 4TWG21034333 for Robotic Acquisition Utilizing Virtual Environments and Networked Simulations (RAVENS), U.S. Army Unmanned Ground Vehicles/Systems Joint Project Office, April 30, 2003.

Ishisaka, K., Okada, T., Hawkins, J. G., Murakami, S., Miyake, T., Nagano, I., Matsumoto, H., Investigation of Electron Density Profile in the Lowest Ionosphere by SRP-4 rocket experiment, AGU, 83(47), Fall Meet. Suppl., Abstract SM22A-0561, 2002.

Hawkins, J. G., Vehicle Navigation Unit (VNU) Development Phase III: VNU Capability Assessment and Second Generation Design, Final Subcontract Report under the U.S Army AMCOM project titled *Robotic Acquisition Through Virtual Environments and Networked Simulations (RAVENS) Cold Weather Test Capabilities Design* (Agreement Number PIIN/SIIN DAAH01-01-C-0145), submitted to Kachemak Research Development, Inc., September 22, 2002c.

Hawkins, J. G., Vehicle Navigation Unit (VNU) Development Phase I: Prototype Test Bed, Year 3 Final Subcontract Report for the *Lightweight Robotic and Semiautonomous Ground Vehicle Mobility and Survivability Enhancements Program*, Subcontract 98-166, submitted to Utah State University, August 1, 2002b.

Hawkins, J. G., Vehicle Navigation Unit (VNU) Development Phase II: Testing and Modeling, Final Subcontract Report under the U.S Army TARDEC contract #DAAE07-01-C-LXXX (Work Directive #KRD-0001), submitted to Kachemak Research Development, Inc., March 31, 2002a.

Burket, V., R. Ponchione, B. Hay, J. Hawkins, T. Okada, F. Tohyama, The Development of a Modular Payload Structure for Student-Designed Sounding Rocket Experiments, Japan Earth and Planetary Sciences Joint Meeting, Tokyo Japan, June 4-7, 2001.

Hawkins, J. G., R. Collins, S. Daniel, C. Lin, R. Wies, Year 2 Final Subcontract Report for the *Lightweight Robotic and Semiautonomous Ground Vehicle Mobility and Survivability Enhancements Program*, Subcontract 98-166, submitted to Utah State University, August 10, 2000.

Wies, R. W., J. Mitchell, S. Daniel, J. Hawkins, Analysis of Electric Machines and Drive Systems for Unmanned Ground Vehicle Applications, in *Unmanned Ground Vehicle Technology III*, Gerhart, Gunderson, and Shoemaker editors, Proceedings of SPIE, vol. 2024, pp. 263-272, 2000.

Hatfield, M. C., and J. G. Hawkins, Design of an Electronically Steerable Phased Array for Wireless Power Transmission Using a Magnetron Directional Amplifier, *1999 IEEE MTT-S International Microwave Symposium Digest*, pp. 341-344, 1999.

Hatfield, M. C., J. G. Hawkins, W. Brown, Use of a Magnetron as a High-Gain, Phase-locked Amplifier in an Electronically-steerable Phased-array, *1998 IEEE MTT-S International Microwave Symposium Digest*, 1998.

Hawkins, J., S. Houston, M. Hatfield, W. Brown, The SABER Microwave-Powered Helicopter Project and Related WPT Research at the University of Alaska Fairbanks, invited paper presented at the *Space Technology and Applications International Forum - 1998*, ed. Mohamed S. El-Genk, American Institute of Physics Conference Proceedings 420, Woodbury, NY, 1998.

Pignolet, G., J. G. Hawkins, N. Kaya, Jean-Daniel Lan Sun Luk, F. Lefevre, V. Loman, Y. Naruo, F. Valette, V. Vanke, Results of the Grand Bassin Case Study in Reunion Island: Operational Design for a 10 KW Microwave Beam Energy Transportation System, *47th International Astronautical Congress*, IAF-96-R.2.08, Beijing, China, 7-11 October, 1996.

Lee, L. C., and J. G. Hawkins, Coupling Between Microscale and Mesoscale Processes in the Dayside Magnetosheath, Magnetopause, and Boundary Layer Regions, in *Proceedings of the Workshop on "Cross-Scale Coupling in Space Plasmas"*, Geophysical Monograph 93, American Geophysical Union, 1995.

Hawkins, J. G., L. C. Lee, M. Yan, Y. Lin, F. W. Perkins, and M. Yamada, A mechanism to produce a dawn-dusk component of plasma flow during magnetic reconnection in the magnetotail, *J. Geophys. Res.*, *99*, 5869, 1994.

Hawkins, J. G., Z. W. Ma, and L. C. Lee, Impulsive penetration at the dayside magnetopause, in *Physics of Space Plasma*, SPI Conference Proceedings and Reprint Series, No. 10, T. Chang, G. B. Crew, and J. P. Jasperse, eds., Scientific Publishers Inc., Cambridge, MA, p. 447, 1991.

Lee, L. C., M. Yan, and J. G. Hawkins, A study of slow-mode structures in front of the dayside magnetopause, *Geophys. Res. Lett.*, *18*, 381-384, 1991.

Ma, Z. W., J. G. Hawkins, and L. C. Lee, A simulation study of impulsive penetration of solar wind irregularities into the magnetosphere at the dayside magnetopause, *J. Geophys. Res.*, *96*, 15751-15765, 1991.

Huang, L., J. G. Hawkins, and L. C. Lee, On the generation of the pulsating aurora by the loss-cone driven whistler instability in the equatorial region, *J. Geophys. Res.*, *95*, 3893, 1990.

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Hawkins, J. G., Vehicle charging and return current collection during electron beam emissions from the Shuttle Orbiter, Ph.D. thesis, Stanford University, 1988.

Hawkins, J. G., R. I. Bush, P. M. Banks, P. R. Williamson, and W. J. Raitt, Vehicle charging of the shuttle orbiter during electron beam emission, *Space Technology Plasma Issues in 2001*, edited by H. Garrett, J. Feynman, and S. Gabriel, JPL 86-49, October, 1986.