



NASA Propagation Studies

OBJECTIVES: To enable the development of new commercial satellite communication systems and services by providing timely data and models about propagation of satellite radio signals through the intervening environment and to support NASA missions.

APPROACH: In partnership with industry and academia, the program leverages unique NASA assets (currently Advanced Communications Technology Satellite) to obtain propagation data. The findings of the study are disseminated through refereed journals, NASA reference publications, workshops, electronic media, and direct interface with industry.

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- [ACTS Propagation Campaign](#)
- Ka-Band Studies
 - [Three-Site Space Diversity Experiment at 20 GHz Using ACTS](#), Julius Goldhirsh, Bert H. Musiani, The John Hopkins University, Applied Physics Laboratory, and Asoka Dissanayake, K.T. Lin, COMSAT Laboratories  (26k)
 - [Attenuation Scaling by Frequency in the Ku/Ka-Bands Using the Olympus Satellite](#), Jeff D. Laster, Warren L. Stutzman, Satellite Communications Group, Bradley Department of Electrical Engineering, Virginia Polytechnic Institute & State University  (22k)
 - [An Extended Empirical Roadside Shadowing Model for Estimating Fade Distributions from UHF to K-Band for Mobile Satellite Communications](#), Julius Goldhirsh, Applied Physics Laboratory, The Johns Hopkins University, and Wolfhard J. Vogel, Electrical Engineering Research Laboratory, The University of Texas at Austin  (116k)

- Mobile Satellite Communications
 - Handbook
 - [NASA Reference Publication 1274](#)
Propagation Effects for land Mobile Satellite Systems: Overview of Experimental and Modeling results, J. Goldhirsh and W. Vogel. 
 - Experiments
 - [GPS: A Tool for Mobile Satellite Fade Measurements](#)
Wolfhard J Vogel and Geoffery W. Torrence
University of Texas, Electrical Engineering Research Laboratory
10100 Burnet Road, Austin, Texas 78758-4492  (4.4Mb)
 - [Fisheye Movies](#)
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 - Available Publications
 - Handbooks
 - [NASA Reference Publication 1274](#)
Propagation Effects for land Mobile Satellite Systems: Overview of Experimental and Modeling results, J. Goldhirsh and W. Vogel.
 - [NASA Reference Publication 1108\(02\)](#)
Propagation Effects on Satellite Systems at Frequencies Below 10 Ghz, A Handbook for Satellite Systems Design, W. Flock
 - NASA Reference Publication 1082(04) -Pending
Propagation Effects handbook for Satellite Systems Design, A Summary of Propagation Impairments to 10 to 100 Ghz Satellite Links With Techniques for System Design, L. Ippolito
 - Proceedings, NAPEX Meetings & Workshops
 - Proceedings of [NAPEX XIX and APSW VII](#)
Fort Collins, Colorado, June 14-15, 1995
 - Proceedings of NAPEX XVIII and ACTS miniworkshop
Vancouver, British Columbia, June 16-17, 1994
 - Proceedings of NAPEX XVII and ACTS miniworkshop
Pasadena, California, June 14-15, 1993
 - Proceedings of NAPEX XVI and ACTS miniworkshop
Houston, Texas, May 29-30, 1992
 - Proceedings of NAPEX XV and ACTS miniworkshop
London, Ontario, Canada, June 28-29, 1991
 - Presentations of the Eighth ACTS Propagation Studies Workshop (APSW VIII) Norman, Oklahoma, November 15-16, 1995
 - Presentations of the Sixth ACTS Propagation Studies Workshop (APSW VI) Clearwater Beach, Florida, November 28-30, 1994
 - Presentations of the Fifth ACTS Propagation Studies Workshop (APSW V) Las Cruces, New Mexico, November 29-December 1, 1993
 - Presentations of the Fourth ACTS Propagation Studies Workshop (APSW IV) Santa Monica, California, December 1-2, 1992
 - Presentations of the Third ACTS Propagation Studies Workshop (APSW III) Santa Monica, California, January 21-22, 1992

- Presentations of the First ACTS Propagation Studies Workshop (APSW I) Santa Monica, California, November 28-29, 1989



- Related Papers of Propagation Models & Data

- Online Models
- Models not online
- Models from other locations



- Conferences and Workshops

- NAPEX Meetings/ACTS Workshops

- NASA Propagation Experimenters (NAPEX) XIX and ACTS Propagation Studies Workshop (APSW) VII, Fort Collins, Colorado, June 14-15, 1995
- NASA Propagation Experimenters (NAPEX) XVIII and ACTS miniworkshop, Vancouver, British Columbia, June 16-17, 1994
- NASA Propagation Experimenters (NAPEX) XVII and ACTS miniworkshop, Pasadena, California, June 14-15, 1993
- NASA Propagation Experimenters (NAPEX) XVI and ACTS miniworkshop, Houston, Texas, May 29-30, 1992
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The above pages are designed to be of interest to scientists and engineers only.

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