

Antenna Applications Symposium 2009

**Monticello, Illinois, USA
22 – 24 September 2009**

ISBN: 978-1-61782-825-6

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2009) by the Antenna Symposium
All rights reserved.

Printed by Curran Associates, Inc. (2011)

For permission requests, please contact the Antenna Symposium
at the address below.

Antenna Symposium
Daniel Schaubert
149 Aubinwood Road
Amherst, MA 01002

Phone: (413) 545-2530
Fax: (413) 253-5181

shaubert@ecs.umass.edu

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

2009 ANTENNA APPLICATIONS SYMPOSIUM

22 - 24 September 2009

Monticello, Illinois

Bandwidth Enhancement of a Small Antenna by Modal Superposition	1
J.J. Adams and J.T. Bernhard	
Towards the Development of Electrically Small Antenna Measurements Systems Technology	16
N. Clow and I.L. Morrow	
Measurement of Electrically Small Antennas	40
S. Barot, P.E. Mayes, P.W. Klock and J.T. Bernhard	
Reduced-Size Linear Antenna Elements	51
P.E. Mayes, P.W. Klock and S. Barot	
Low-Profile Monopole Antenna with Integrated EBG Reflector and Director	60
I.L. Morrow and R.W. Davies	
18-110 GHz Integrated Planar Log-Periodic Antennas	82
J.R. Mruk, Y. Saito and D.S. Filipovic	
A Decoupling Technique for Compact Antenna Arrays in Handheld Terminals	94
L.K. Yeung and Y.E. Wang	
A New Modular Wideband Array Topology	105
S.S. Holland, M.N. Vouvakis and D.H. Schaubert	
A Novel Non-Symmetric Tightly Coupled Element for Wideband Phased Array Apertures	117
J.A. Kasemodel, C-C. Chen and J.L. Volakis	
Development of a Reconfigurable UWB Three-Dimensional See-Through-Wall Radar Imaging System	130
Y. Wang and A.E. Fathy	

Operational Perspectives of Biologically Inspired Capillary-Based Reconfiguration Mechanisms in Microstrip Patch Antennas	142
G.H. Huff, S. Goldberger and S.A. Long	
A Semiconductor Patch Antenna Built Upon the Depletion Region of a pn- or pin-Junction	158
E.M.A. Oliveira, A. Puzella, J. McNeill and S.N. Makarov	
Phase Center Stability of Planar Spiral Antennas	178
M.J. Radway, T.P. Cencich and D.S. Filipovic	
VHF Through L-Band Analog and Digital Modeformers	190
N. Sutton, P. Kasemir, M. Radway and D.S. Filipovic,	
Reflector Impulse Radiating Antenna Design with a Wideband Strip-Line Balun for 20 kV Impulse	205
B. Kim, J. Byun, F.J. Harackiewicz and B. Lee	
Wide-Band Dual Patch Aperture Coupled Antenna	220
Y.M. Lee	
Reconfiguration of Vivaldi and Log Periodic Antennas	233
P.S. Hall, M.R. Hamid, F. Ghanem, A. Mirkamali and P. Gardner	
Utilizing Radiation Properties of Pattern Reconfigurable Antennas in Adaptive Arrays	245
T.L. Roach and J.T. Bernhard	
Leaky-Wave Antenna Supporting 2.5 Gb/s on a 92 GHz Carrier	258
R.W. Ridgway, S. Yen and D.W. Nippa	
Collinear Arrays for JTRS	273
J. McDonald, F. Lalezari and D. Filipovic	
On the Design of a Compact and Low Cost Radiating Element for Satellite Broadcasting Automotive Receiving Arrays	293
R. Torres-Sanchez, J.R. Mosig, S. Vaccaro and D. Llorens del Rio	

Army SATCOM On-The-Move Initiatives	307
H. Beljour, L. Coryell, T. Fung, J. Gallagher, R. Hoffmann, G. Michael and J. Shields	
Low-Cost Low-Profile Dual Circularly Polarized Ku-Band Antennas for Mobile Satellite Platforms	327
S. Yang, M.H. Awida, S. Suleiman and A.E. Fathy	
Measured Results of an X-Band Edge Slot Waveguide 1D Electronically Scanned Array (ESA)	349
B. Herting, W. Elsallal, J. West, J. Mather and D. Woodell,	
Dual-Band, Dual-Polarized Antenna Element and Array	360
W.M. Dorsey, A.I. Zaghoul and J. Valenzi	
Metamaterial Loaded Radiating Elements for Use in Integrated Arrays	388
M.J. Buckley, L.M. Paulsen, J.D. Wolf, M.D. Davidson, D.L. Manson and J.B. West	
Interleaved Dual-Band Printed Antenna Element for Phased Array Applications	406
R.L. Li, T. Wu, K. Naishadham, L. Yang and M.M. Tentzeris	
Analysis of the Efficiency Improvements of a Directly-Driven Antenna-Based AM Transmitter	418
O.O. Olaode, W.T. Joines and W.D. Palmer	
Design, Fabrication and Characterization of Electrically Small, Plasmonic Resonator Antennas	431
V.V. Varadan	
Optimization of the Bandwidth of Electrically Small Planar Antennas	440
S.R. Best	
A Wideband Dipole Array for Directed Energy Applications ad Digital TV Reception	461
F. Scire Scappuzzo, D.D. HArty, B. Lanice, H. Steyskal and S.N. Makarov	
Recent Advances and Applications of the Continuous Transverse Stub (CTS) Array Antenna	487
W. Milroy	