

## AUTHOR INDEX

Johns Hopkins APL Technical Digest  
Volume 14 (1993)

- Baker, M. A., Mack, S. A., and Vasholz, D. P., *Optical Phase Fluctuations in the Ocean* **14**(3), 209.
- Barger, C. B., Benson, R. C., Newman, R. W., Jette, A. N., and Phillips, T. E., *Oxidation Mechanisms of Hafnium Carbide and Hafnium Diboride in the Temperature Range 1400 to 2100°C* **14**(1), 29.
- Barnett, J. C., see Kopp, B. A.
- Benson, R. C., see Barger, C. B.
- Biondo, A. C., see Boyles, C. A.
- Bokulic, R. S., see Sloan, R. F.
- Boone, B. G., see Sova, R. M.
- Boyles, C. A., and Biondo, A. C., *Modeling Acoustic Propagation and Scattering in Littoral Areas* **14**(2), 162.
- Calman, J., *Guest Editor's Introduction* **14**(3), 198.
- Chao, K., see Nhan, E.
- Charles, H. K., Jr., *Materials in Electronic Packaging at APL* **14**(1), 51.
- Clatterbaugh, G. V., see Russo, A. A.
- Costabile, J. J., see Widmer, H. P.
- Dantzler, H. L., Jr., and Scheerer, D. J., *An Expert System for Describing and Predicting the Coastal Ocean Environment* **14**(2), 181.
- Dantzler, H. L., Jr., Sides, D. J., and Neal, J. C., *An Automated Tactical Oceanographic Monitoring System* **14**(3), 281.
- Duncan, D. D., see Lange, C. H.
- Duncan, D. D., Lange, C. H., and Fischer, D. G., *Imaging Performance of Crystalline and Polycrystalline Oxides* **14**(1), 4.
- Edwards, M. L., *Guest Editor's Introduction* **14**(4), 298.
- Feuillet, J.-P., see Lombardo, J. S.
- Fischer, D. G., see Duncan, D. D.
- Frank, J., and O'Haver, K. W., *Phased-Array Antenna Development at the Applied Physics Laboratory* **14**(4), 339.
- Frizzell-Makowski, L. J., see Sarabun, C. C., Jr.
- Grabow, B. E., see Sova, R. M.
- Grempler, K. E., *An Improved Airborne Ocean Temperature Acquisition Display and Analysis System* **14**(3), 253.
- Hanson, J. L., *Winds, Waves, and Bubbles at the Air-Sea Boundary* **14**(3), 200.
- Hayes, J. R., see Rust, D. M.
- Heaton, H. I., *Guest Editor's Introduction* **14**(2), 87.
- Jette, A. N., see Barger, C. B.
- Kopp, B. A., and Barnett, J. C., *C-Band Receive Module for Phased-Array Antenna Applications Using Commercially Available Monolithic Microwave Integrated Circuits* **14**(4), 333.
- Lafferty, P. M., see Nhan, E.
- Lange, C. H., see Duncan, D. D.
- Lange, C. H., and Duncan, D. D., *Temperature Coefficients of the Refractive Index for Candidate Optical Windows* **14**(1), 12.
- Langston, M. J., see Rempt, R. P.
- Lev, E., see Widmer, H. P.
- Lohr, D. A., see Rust, D. M.
- Lombardo, J. S., Newhall, B. K., and Feuillet, J.-P., *New Array Technologies for Target Discrimination* **14**(2), 154.
- Mack, S. A., see Baker, M. A.
- Maier, L. L., *Writing and Research and Development Awards* **14**(1), 76.
- , *Writing and Research and Development Awards* **14**(4), 370.
- McNamara, T. M., Jr., see Shotts, W. E.
- Moore, C. R., and Penn, J. E., *Custom Design of Monolithic Microwave Integrated Circuits* **14**(4), 300.
- Moorjani, K., *A Tribute to Samuel Koslov* **14**(2), 86.
- Murphy, G. A., see Rust, D. M.
- Myles-Tochko, C. J., *Oceanographic Databases at the Applied Physics Laboratory* **14**(3), 259.
- Neal, J. C., see Dantzler, H. L., Jr.
- Newhall, B. K., see Lombardo, J. S.
- Newman, R. W., *Oxidation-Resistant High-Temperature Materials* **14**(1), 24.
- , see Barger, C. B.
- Nhan, E., Lafferty, P. M., Stilwell, R. K., and Chao, K., *Radio-Frequency Connector and Interconnect Reliability in Spaceborne Applications* **14**(4), 348.
- O'Haver, K. W., see Frank, J.
- Ousborne, D. R., *Ship Self-Defense Against Air Threats* **14**(2), 125.
- Owens, W. A., *Joint Littoral Warfare: Our Future* **14**(2), 90.
- Penn, J. E., see Moore, C. R.
- Phillips, T. E., see Barger, C. B.
- Reinhart, M. J., *A Four-Bit Ku-Band Monolithic Microwave Integrated Circuit Phase Shifter* **14**(4), 307.
- Rempt, R. P., and Langston, M. J., *Theater Missile Defense: Technologies to Support a New Naval Mission* **14**(2), 141.
- Russo, A. A., and Clatterbaugh, G. V., *A Space-Based High-Speed Direct Digital Synthesizer Multichip Module Using Low-Temperature Co-Fired Ceramic* **14**(4), 324.
- Rust, D. M., Hayes, J. R., Lohr, D. A., Murphy, G. A., and Strohbehn, K., *The Flare Genesis Experiment: Studying the Sun from the Stratosphere* **14**(4), 358.
- Sarabun, C. C., Jr., and Frizzell-Makowski, L. J., *New Developments in APL Chesapeake Bay Research* **14**(3), 244.
- Scheerer, D. J., *Reasoning Under Uncertainty for a Coastal Ocean Expert System* **14**(3), 267.
- , see Dantzler, H. L., Jr.
- Shotts, W. E., and McNamara, T. M., Jr., *A Blueprint for the Use of Unmanned Undersea Vehicles in Littoral Warfare* **14**(2), 148.
- Sides, D. J., see Dantzler, H. L., Jr.
- Sinex, C. H., and Winokur, R. S., *Environmental Factors Affecting Military Operations in the Littoral Battlespace* **14**(2), 112.
- Sinsky, J. H., see Sloan, R. F.
- Sloan, R. F., Bokulic, R. S., and Sinsky, J. H., *An X-Band Telecommunications Transmitter for the Mid-Course Space Experiment* **14**(4), 317.
- Smart, J. H., *Seasonal and Spatial Variations in the Attenuation of Light in the North Atlantic Ocean* **14**(3), 231.
- Smith, G. L., *APL and the U.S. Naval Service: A Partnership for the Future* **14**(2), 94.
- Sova, R. M., Grabow, B. E., and Boone, B. G., *High-Temperature Superconducting Electromagnetic Radiation Detectors* **14**(1), 37.
- Stark, V. L., *Quantifying Ocean Color in the North Atlantic and North Pacific Oceans* **14**(3), 224.
- Stilwell, R. K., see Nhan, E.
- Stokes, R. G., and Thompson, G. R., *Naval Service Roles and Missions in Littoral Warfare* **14**(2), 102.

Strohbehn, K., see Rust, D. M.  
Thomas, M. E., and Tropf, W. J., *Optical Properties of Diamond* **14**(1), 16.  
Thompson, G. R., see Stokes, R. G.  
Tropf, W. J., *Guest Editor's Introduction* **14**(1), 2.  
———, see Thomas, M. E.

Vasholz, D. P., see Baker, M. A.  
Vest, C. E., *Lubrication of Spacecraft Mechanisms* **14**(1), 68.  
Widmer, H. P., Lev, E., and Costabile, J. J., *Demonstration of a Low-Frequency, Long-Range Acoustic Communications System* **14**(2), 174.  
Winokur, R. S., see Sinex, C. H.

## TITLE INDEX

*Johns Hopkins APL Technical Digest*  
Volume 14 (1993)

## ADVANCED MICROWAVE TECHNOLOGY

*A Four-Bit Ku-Band Monolithic Microwave Integrated Circuit Phase Shifter* **14**(4), 307. Reinhart, M. J.  
*A Space-Based High-Speed Direct Digital Synthesizer Multichip Module Using Low-Temperature Co-Fired Ceramic* **14**(4), 324. Russo, A. A., and Clatterbaugh, G. V.  
*An X-Band Telecommunications Transmitter for the Mid-Course Space Experiment* **14**(4), 317. Sloan, R. F., Bokulic, R. S., and Sinsky, J. H.  
*C-Band Receive Module for Phased-Array Antenna Applications Using Commercially Available Monolithic Microwave Integrated Circuits* **14**(4), 333. Kopp, B. A., and Barnett, J. C.  
*Custom Design of Monolithic Microwave Integrated Circuits* **14**(4), 300. Moore, C. R., and Penn, J. E.  
*Guest Editor's Introduction* **14**(4), 298. Edwards, M. L.  
*Phased-Array Antenna Development at the Applied Physics Laboratory* **14**(4), 339. Frank, J., and O'Haver, K. W.  
*Radio-Frequency Connector and Interconnect Reliability in Spaceborne Applications* **14**(4), 348. Nhan, E., Lafferty, P. M., Stilwell, R. K., and Chao, K.

## LITTORAL WARFARE

*A Blueprint for the Use of Unmanned Undersea Vehicles in Littoral Warfare* **14**(2), 148. Shotts, W. E., and McNamara, T. M., Jr.  
*An Expert System for Describing and Predicting the Coastal Ocean Environment* **14**(2), 181. Dantzler, H. L., Jr., and Scheerer, D. J.  
*APL and the U.S. Naval Service: A Partnership for the Future* **14**(2), 94. Smith, G. L.  
*Demonstration of a Low-Frequency, Long-Range Acoustic Communications System* **14**(2), 174. Widmer, H. P., Lev, E., and Costabile, J. J.  
*Environmental Factors Affecting Military Operations in the Littoral Battlespace* **14**(2), 112. Sinex, C. H., and Winokur, R. S.  
*Guest Editor's Introduction* **14**(2), 87. Heaton, H. I.  
*Joint Littoral Warfare: Our Future* **14**(2), 90. Owens, W. A.  
*Modeling Acoustic Propagation and Scattering in Littoral Areas* **14**(2), 162. Boyles, C. A., and Biondo, A. C.  
*Naval Service Roles and Missions in Littoral Warfare* **14**(2), 102. Stokes, R. G., and Thompson, G. R.  
*New Array Technologies for Target Discrimination* **14**(2), 154. Lombardo, J. S., Newhall, B. K., and Feuillet, J.-P.  
*Ship Self-Defense Against Air Threats* **14**(2), 125. Ousborne, D. R.  
*Theater Missile Defense: Technologies to Support a New Naval Mission* **14**(2), 141. Rempt, R. P., and Langston, M. J.

## MATERIALS PROGRAMS

*Guest Editor's Introduction* **14**(1), 2. Tropf, W. J.  
*High-Temperature Superconducting Electromagnetic Radiation Detectors* **14**(1), 37. Sova, R. M., Grabow, B. E., and Boone, B. G.  
*Imaging Performance of Crystalline and Polycrystalline Oxides* **14**(1), 4. Duncan, D. D., Lange, C. H., and Fischer, D. G.  
*Materials in Electronic Packaging at APL* **14**(1), 51. Charles, H. K., Jr.  
*Optical Properties of Diamond* **14**(1), 16. Thomas, M. E., and Tropf, W. J.  
*Oxidation Mechanisms of Hafnium Carbide and Hafnium Diboride in the Temperature Range 1400 to 2100°C* **14**(1), 29. Barger, C. B., Benson, R. C., Newman, R. W., Jette, A. N., and Phillips, T. E.  
*Oxidation-Resistant High-Temperature Materials* **14**(1), 24. Newman, R. W.  
*Temperature Coefficients of the Refractive Index for Candidate Optical Windows* **14**(1), 12. Lange, C. H., and Duncan, D. D.

## MEETINGS, COLLOQUIA

*Publications, Presentations, and Colloquia* **14**(1), 81.  
*Publications, Presentations, and Colloquia* **14**(2), 193.  
*Publications, Presentations, and Colloquia* **14**(3), 293.  
*Publications, Presentations, and Colloquia* **14**(4), 374.

## OCEAN SCIENCE AND TECHNOLOGY

*An Automated Tactical Oceanographic Monitoring System* **14**(3), 281. Dantzler, H. L., Jr., Sides, D. J., and Neal, J. C.  
*An Improved Airborne Ocean Temperature Acquisition Display and Analysis System* **14**(3), 253. Grempler, K. E.  
*Guest Editor's Introduction* **14**(3), 198. Calman, J.  
*New Developments in APL Chesapeake Bay Research* **14**(3), 244. Sarabun, C. C., Jr., and Frizzell-Makowski, L. J.  
*Oceanographic Databases at the Applied Physics Laboratory* **14**(3), 259. Myles-Tochko, C. J.  
*Optical Phase Fluctuations in the Ocean* **14**(3), 209. Baker, M. A., Mack, S. A., and Vasholz, D. P.  
*Quantifying Ocean Color in the North Atlantic and North Pacific Oceans* **14**(3), 224. Stark, V. L.  
*Reasoning Under Uncertainty for a Coastal Ocean Expert System* **14**(3), 267. Scheerer, D. J.  
*Seasonal and Spatial Variations in the Attenuation of Light in the North Atlantic Ocean* **14**(3), 231. Smart, J. H.  
*Winds, Waves, and Bubbles at the Air-Sea Boundary* **14**(3), 200. Hanson, J. L.

## OTHER TOPICS

*A Tribute to Samuel Koslov* **14**(2), 86. Moorjani, K.  
*Lubrication of Spacecraft Mechanisms* **14**(1), 68. Vest, C. E.  
*Patents* **14**(1), 83.  
*The Flare Genesis Experiment: Studying the Sun from the Stratosphere* **14**(4), 358. Rust, D. M., Hayes, J. R., Lohr, D. A., Murphy, G. A., and Strohhahn, K.  
*Writing and Research and Development Awards* **14**(1), 76. Maier, L. L.  
*Writing and Research and Development Awards* **14**(4), 370. Maier, L. L.