

Readings for 2.693 Spring 2004

Principles of Oceanographic Instrumentation Systems - Sensors and Measurements

Williams & Irish

Articles and Books

Agrawal, Y. C., and H. C. Pottsmith. "Autonomous Long-Term In-Situ Particle Sizing Using a New LASER Diffraction Instrument." In Volume 5 of *Proceedings of Oceans '89*. New York, NY: IEEE Press, 1989.

Aziz, P. M., H. V. Sorensen, & J. van der Spiegel. "An Overview of Sigma-Delta Converters." *IEEE Signal Processing* 13 no. 1 (January 1996): 61-84.

Churchill, J. H., A. J. Williams, and E. A. Ralph. "Bottom stress generation and sediment transport over the shelf and slope off of Lake Superior's Keweenaw peninsula." *J. Geophys. Res.* 109 (2004): C10S04

Converse, C. H., A. J. Williams, et al. "A Free Ocean Vehicle to Measure Optical Microstructure." In *Current Practices and New Technology in Ocean Engineering* (OED Vol 11). Edited by T. McGuinness & H. H. Shih. New Orleans, LA: ASME, 1986. pp 341-345

Desa, E. S., E. Desa, R. G. Prabhudesai, and T. Suresh. "A Fast Scanning High Resolution In-Water Spectroradiometer." In Volume III of *Proceeding of Oceans '94 Conference*. Brest, France: IEEE Press, 1994. ISBN: 0780320565.

Jerlov, N. G. *Optical Oceanography*. Amsterdam, The Netherlands: Elsevier, 1968

McDonald, G., and M. Naiman. "Heat Transfer Advances for Submerged Oceanographic Systems." In Volume 4 of *Proceeding of Oceans '02 Conference*. New York, NY: IEEE Press, 1994. ISBN: 0780375343.

Rognstad, M. R., and M. Naiman. "Improved Signal Processing and Data Acquisition Electronics for the DSL-120." In Volume 4 of *Proceeding of Oceans '02 Conference*. New York, NY: IEEE Press, 1994. ISBN: 0780375343.

Tweed, David. "Digital Processing in an Analog World: Basic Issues." *Circuit Cellar* 99 (October 1998): 68-73.

----. "Digital Processing in an Analog World: Technology Choices." *Circuit Cellar* 100 (November 1998): 64-69.

----. "Digital Processing in an Analog World: Dithering Your Conversion." *Circuit Cellar* 101 (December 1998).

Williams, A. J., 3rd. "Salt Fingers Observed in the Mediterranean Outflow." *Science* 185 (1974): 941-943.

----. "Images of Ocean Microstructure." *Deep-Sea Research* 22 (1975): 811-829.

----. "Linearity and Noise in Differential Travel Time Acoustic Velocity Measurement." *Proceedings of IEEE Current Measurement Technology Conference* (1995): 216-219

Williams, A. J., 3rd, and N. R. Fraenkel. "Measurement of Multiple Sensors Simultaneously with Counters." *Sea Technology* (February 1996): 89-94.

Williams, A. J., 3rd, et al. "Measurement of Turbulence in the Oceanic Bottom Boundary Layer with an Acoustic Current Meter Array." *JAOT* (1987): 312-327.

Wilson, R. A., P. D. Thorne, J. J. Williams, P. S. Bell and P. J. Hardcastle. "An Evaluation of a 3D Acoustic Coherent Doppler Current Profiler in the Marine Environment." *Proc. 5th European Conf. on Underwater Acoustics* (ECUA 2000): 627-632.

Datasheets, Manuals and Tutorials

Analog Devices. AD7884/AD7885 Data Sheet

Burr-Brown. Flash A/D Converter, pp. 8.10 to 8.13..

Crystal Semiconductor Corp. "CS5102 16-Bit, 20kHz Serial-Output A/D Converter." 1990, pp. 3-123 to 3-149.

Dexter, Stephen. Table 1, Galvanic Series, in "Galvanic Corrosion."
<http://www.ocean.udel.edu/mas/masnotes/corrosion.pdf>

Hitachi. "HD6301YO, HD63A01YO, HD63B01YO, HD63C01YO CMOS Microcomputer Unit." 1985 (50 pages).

Impulse Connector. Assorted technical bulletins.

Nelson, Robert. [Antenna Tutorial on Gain and Beamwidth](#). Applied Technology Institute, September 1999. Accessed 25 October 2006.

Nobska Development. Function GetAcousticAxes() - MAVS 3 (C code)

----. MWAVES functions (C code)

----. MAVS Calibration Sheet

Onset Computer Corp. "The TTBasic Manual." 1993 (106 pages).

Parker O-Rings. "O-Ring Selections" manual

Seabird Electronics, Inc. Datasheets for SBE 3 sensors; Pedersen technical paper.

Sea Tech. "Light Back-Scattering Sensor" manual.

WET Labs, Inc. "WETStar Miniature Fluorometer User's Guide Version 1.0." 1995.