

Underwater Mass Spectrometers

2007

Bell, R.J., Short, R.T., van Amerom, F.H.W., and Byrne, R.H. (2007) Calibration of an in situ membrane inlet mass spectrometer for measurements of dissolved gases and volatile organics in seawater, *Environmental Science and Technology*, 41:23, 8123–8128.

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Short, R.T., Toler, S.K., Kibelka, G.P.G., Rueda Roa, D.T., Bell, R.J., and Byrne, R.H. (2006) Detection and quantification of chemical plumes using a portable underwater membrane introduction mass spectrometer, *Trends in Anal. Chem.*, vol. 25, no. 7.

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Kibelka, G.P.G., Short, R.T., Toler, S.K., Edkins, J.E., and Byrne, R.H. (2004) Field-deployed underwater mass spectrometers for investigations of transient chemical systems, *Talanta*, 64: 961–969.

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Eaton, G., Short, R.T., and Fries, D.P. (2001) In-situ spectrometer is AUV-mounted, *International Ocean Systems*, 5/2 8–9.

Fries, D.P., Short, R.T., Langebrake, L.L., Patten, J.T., Kerr, M.L., Kibelka, G.P.G., Burwell, D.C., and Jalbert, J.C. (2001) In-water field analytical technology: underwater mass spectrometry, mobile robots, and remote intelligence for wide and local area chemical profiling, *Field Analyt. Chem. Technol.*, 5 121–130.

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Miniaturization and Microfabrication of Mass Spectrometers

2009

Chaudhary, A., van Amerom, F.H.W., and Short, R.T. (2009) Development of microfabricated cylindrical ion trap mass spectrometer arrays, *IEEE Journal of MEMS*, 18, 442–448.

2008

van Amerom, F.H.W., Chaudhary, A., Cardenas, M., Bumgarner, J., and Short, R.T. (2008) Microfabrication of cylindrical ion trap mass spectrometer arrays for handheld chemical analyzers, *Chem. Eng. Comm.*, 195, 98–114.

2006

Chaudhary, A., van Amerom, F.H.W., Short, R.T., and Bhansali, S. (2006) Fabrication and testing of a miniature cylindrical ion trap mass spectrometer constructed from low temperature co-fired ceramics, *Int. J. Mass Spectrom.*, 251, 32–39.

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Chaudhary, A., van Amerom, F.H.W., Bumgarner, J., and Short, R.T. (2005) Microfabricated cylindrical ion trap mass spectrometer arrays, *Proc. μ TAS 2005*, Boston, MA, 2, 1195–1198.

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Chaudhary, A., van Amerom, F.H.W., Bhansali, S., and Short, R.T. (2004) A novel fabrication technique of cylindrical ion traps using low temperature co-fired ceramic tapes, *Proc. 2004 Nanotechnology Conference and Trade Show*, 1, 371–373.

Novel and/or Miniature Power Sources

2008

Cardenas-Valencia, A.M., Adornato, L., Short, R.T., and Langebrake, L. (2008) Novel enhancement of thin-form factor galvanic cells: probing halogenated organic oxidizers and metal-anodes, *J. Power Sources*, 184, 318–324.

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Cardenas-Valencia, A.M., Dlutowski J., Bumgarner J., Knighton, S., Biver, C., and Langebrake, L. (2007) Aluminum-anode, silicon-based micro-cells for powering expendable MEMS and lab-on-a-chip devices, *Sensors and Actuators: B. Chem.*, 122(1), 328–336.

Cardenas-Valencia, A.M., Dlutowski, J., Bumgarner, J., Munoz, C., Wang, W., Popuri, R., and Langebrake, L. (2007) Development of various designs of low-power, MEMS valves for fluidic applications, *Journal of Sensors and Actuators: A. Physical*, 136, (1) 374–384.

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Cardenas-Valencia, A. M., Dlutowski, J., Bumgarner, J., Langebrake, L., and Moreno, W. (2006) Long shelf-life, Al-anode micro-fabricated cells activated with alkaline-H₂O₂ electrolytes, *J. Micromech. Microeng.*, 16, 1511–1518.

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Cardenas-Valencia, A.M., Steimle, E., and Byrne, R. (2006) Development of stripped-cladding optical fiber sensors for continuous monitoring I: theoretical study of a referencing method for measuring refractive indices of fluids, *Sensors and Actuators: B. Chem.*, 115(1), 178–188.

Dlutowski, J., Cardenas-Valencia, A.M., Fries, D.P., and Langebrake, L. (2006) Refractive index determination of transparent polymers: experimental set-up for multi-wavelength determination and calculation of values at specific frequencies using group contribution theories, *Journal of Chemical Education*, 83, 1867.

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Janowiak, M.L., Cardenas-Valencia, A.M., Hall, M.L., and Fries, D.P. (2005) Development of a mobile sensing system for in situ water analysis based on solid-phase extraction-reflection spectroscopy, *Measurement Science and Technology*, 16, 729–737.

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