

## **DELTA GROUP Master PUBLICATIONS**

(As of May 8, 2013)

- 12-1 Peter Jenniskens, Marc D. Fries, Qing-Zhu Yin, Michael Zolensky, Thomas A. Cahill, David E. Barnes, et al. **Radar-Enabled Recovery of the Sutter's Mill Meteorite, a Carbonaceous Chondrite Regolith Breccia.** *Science*, 338:1583-1587 (2012) doi: 10.1126/science.1227163
- 12-2 VanCuren, Richard, Thomas Cahill, John Burkhart, David Barnes, Yongjing Zhao, Kevin Perry, Steven Cliff, and Joe McConnell, **Aerosols and Their Sources at Summit Greenland – First results of Continuous Size- and Time-Resolved Sampling,** *Atmospheric Environment*, 52:82-97 (2012) doi:10.1016/j.atmosenv.2011.10.047
- 11-1 Thomas A. Cahill, David E. Barnes, Earl Withycombe, and Mitchell Watnik. **Very Fine and Ultra-Fine Metals and Ischemic Heart Disease in the California Central Valley 2: 1974 – 1991.** *Aerosol Science and Technology* 45:1135-1142 (2011) doi: 10.1080/02786826.2011.582196
- 11-2 Thomas A. Cahill, David E. Barnes, Nicholas J. Spada, Jonathan A. Lawton and Thomas M. Cahill. **Very Fine and Ultra-Fine Metals and Ischemic Heart Disease in the California Central Valley 1: 2003 – 2007.** *Aerosol Science and Technology* 45:1125-1134 (2011) doi:10.1080/02786826.2011.582194
- 11-3 Thomas A. Cahill, Thomas M. Cahill, David E. Barnes, Nicholas J. Spada and Roger Miller. **Inorganic and Organic Aerosols Downwind of California's Roseville Railyard.** *Aerosol Science and Technology* 45:1049-1059 (2011) doi:10.1080/02786826.2011.580796
- 10-1 Cahill, TM, Size-Resolved **Size-Resolved Organic Speciation of Wintertime Aerosols in California's Central Valley.** *Environmental Science and Technology* 44:2315 - 2321 (2010) doi 10.1021/es902936v
- 10-2 Cahill, Catherine F., Peter G. Rinkleff, Jonathan Dehn, Peter W. Webley, Thomas A. Cahill, and David E. Barnes. **Aerosol Measurements from a Recent Alaskan Volcanic Eruption: Implications for Ash Transport Predictions.** *Journal of Volcanology and Geothermal Research*, 198:76-80 (2010) doi:10.1016/j.jvolgeores.2010.08.012
- 08-1 Cahill, Catherine F, Thomas A. Cahill, and Kevin D. Perry. **The Size- and Time-Resolved Composition of Aerosols from a Sub-Arctic Boreal Fire Prescribed Burn.** *Atmospheric Environment*, 42:7553-7559 (2008) doi:10.1016/j.atmosenv.2008.04.034

- 07-1 Emma Peré-Trepat, Eugene Kim, Pentti Taatero, and Philip K. Hopke. **Source Apportionment of Time and Size Resolved Ambient Particulate Matter Measured with a Rotating DRUM Impactor.** *Atmospheric Environment*, 41:5921–5933 (2007) doi:10.1016/j.atmosenv.2007.03.022.
- 06-1 Alan W. Gertler, Andrzej Bytnerowicz, Thomas A. Cahill, Michael Arbaugh, Steven Cliff, Jülide Kahyaoğlu-Koračin, Leland Tarney, Rocio Alonso, Witold Fraczek. **Local Air Pollutants Threaten Lake Tahoes Clarity.** *California Agriculture*, 60:53-58 (2006) doi:10.3733/ca.v060n02p53.
- 05-1 Perry, Kevin; Steven S. Cliff, Michael P. Jimenez-Cruz. **Evidence for Hygroscopic Mineral Dust Particles from the Intercontinental Transport and Chemical Transformation Experiment.** *Journal of Geophysical Research*, Vol. 109, D23S28, 9 PP (2004) doi:10.1029/2004JD004979.
- 04-1 Thomas A. Cahill, Steven S. Cliff, Kevin D. Perry, Michael Jimenez-Cruz, Graham Bench, Patrick Grant, Dawn Ueda, James F. Shackelford, Michael Dunlap, Michael Meier, Peter B. Kelly, Sarah Riddle, Jodye Selco, and Robert Leifer. **Analysis of Aerosols from the World Trade Center Collapse Site, New York, October 2 to October 30, 2001.** *Aerosol Science and Technology*, 38:165–183 (2004) doi: 10.1080/02786820490250836
- 04-2 Han, J.S, K.J. Moon, J.Y. Ahn, Y.D. Hong, Y.J Kim, S. Y. Rhu, Steven S. Cliff, and Thomas A. Cahill. **Characteristics of Ion Components and Trace Elements of Fine Particles at Gosan, Korea in Spring Time from 2002 to 2002.** *Environmental Monitoring and Assessment*, 92:73-93 (2004) doi:10.1023/B:EMAS.0000014510.21563.50
- 04-3 Seinfeld, J.H., Carmichael, G.R., Arimoto, R, Conant, W. C., Brechtel, F. J., Bates, T. S., Cahill, T. A., Clarke, A.D., Flatau, B.J., Huebert, B.J., Kim, J., Markowicz, K.M., Masonis, S.J., Quinn, P.K., Russell, L.M., Russell, P.B., Shimizu, A., Shinozuka, Y., Song, C.H., Tang, Y., Uno, I, Vogelmann, A.M., Weber, R.J., Woo, J-H., Zhang, Y. **ACE-Asia: Regional Climatic and Atmospheric Chemical Effects of Asian Dust and Pollution.** *Bulletin American Meteorological Society*, 85:367-380 (2004) doi: 10.1175/BAMS-85-3-367.
- 04-4 Malm, William C., Bret A. Schichtel, Marc L. Pitchford, Lowell L. Ashbaugh, Robert A. Eldred. **Spatial and Monthly Trends in Speciated Fine Particle Concentration in the United States.** *Journal of Geophysical Research*, 109:D03306 (2004) doi:10.1029/2003JD003739
- 04-5 Cahill, T. A., S.S. Cliff, J.F. Shackelford, M.L. Meier, M.R. Dunlap, K.D. Perry, G.S. Bench, and R.Z. Leifer. **Very Fine Aerosols from the World Trade Center collapse**

**Piles: Anaerobic Incineration?** *American Chemical Society Symposium Series*, 919:152-163 (2005) doi:10.1021/bk-2006-0919.ch009

- 04-6 Cahill, T. A., Cliff, S. S., Jimenez-Cruz, M., Shackelford, J. F., and Perry, K. **Quality Assurance and Evolution of DRUM Data for the Fresno FACES Study: Comparison of DRUM, Dichot, RAAS, and FRM-SASS Data, March-December 2001.** (2004)
- 03-1 Cahill, C.F. **Asian Aerosol Transport to Alaska During ACE-Asia.** *J. Geophys. Res.* 108(D23), 8664 (2003) doi:10.1029/2002JD003271
- 03-2 Gill, Thomas E, Thomas A. Cahill, Scott A. Copeland, and Bruce R. White. **Sand Fences for Control of Wind Erosion and Dust Emission at Owens Lake, CA: Full Scale Testing, Field Deployment, and Evaluation of Effectiveness, Dispersion Particulate.** *11<sup>th</sup> International Conference on Wind Engineering Texas Tech 2003*, 2:2773-2780 (2003).
- 03-3 Shackelford, J.F., P.B. Kelly, S.S. Cliff, M. Jimenez-Cruz, and T.A.Cahill. **Characterizing Particulate Emissions Using Micrometer-Scale X-Ray Fluorescence.** *Ceramic Transitions*, 143:59 – 66 (2003)
- 03-4 Reuter, John E., Cahill, Thomas A., Cliff, Steven S., Goldman, Charles R., Heyvaert, Alan C., Jassby, Alan D., Lindstrom, Susan, and Rizzo, Davis M. **An Integrated Watershed Approach to Studying Ecosystem Health at Lake Tahoe, CA-NV.** *Managing for Healthy Ecosystems*, Rapport et al, ed., CRC Press, New York, 1283-1298 (2003) ISBN 1-56670-612-2.
- 02-1 VanCuren, Richard A., and Thomas A. Cahill. **Asian Aerosols in North America: Frequency and Concentration of Fine Dust.** *Journal Geophysical Research* 107, No. D24, 4804 (2002) doi:10.1029/2002JD002204.
- 02-2 Bench, Graham; Patrick G. Grant; Dawn Ueda; Steve S. Cliff; Kevin D. Perry, Thomas A. Cahill. **The use of STIM and PESA to measure profiles of aerosol mass and hydrogen content, respectively, across Mylar Rotating Drums Impactor Samples.** *Aerosol Science and Technology*, 36:642-651 (2002) doi:10.1080/02786820252883874.
- 02-3 Gertler, Alan; Mahmoud Abu-Allaban, William Coulombe, John A.Gillies, William R. Pierson, C. Fred Rogers, John C.Sagebiel, Leland Tarnay, Thomas A. Cahill. **Measurements of mobile source particulate emissions in a highway tunnel.** *International Journal of Vehicle Design* 2001, 27: 86-93 (2002) doi:10.1504/IJVD.2001.001954.

- 01-1 V. Shutthanandan, S. Thevuthasan, R. Disselkamp, A. Stroud, A. Cavanaugh, E.M. Adams, D.R. Baer, L. Barrie, S.S. Cliff, M. Jimenez-Cruz, T.A. Cahill. **Development of PIXE, PESA and transmission ion microscopy capability to measure aerosols by size and time.** *Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials and Atmosphere*, 189:284-288 (2002) [http://dx.doi.org/10.1016/S0168-583X\(01\)01058-8](http://dx.doi.org/10.1016/S0168-583X(01)01058-8).
- 01-2 Y.H. Han, T. A. Cahill, S.J. Kim, J. F. Shackelford and C. Castaneda. **Proton-induced –X ray emission (PIXE) Characterization of Special Glasses and Multi-coated Lenses.** *Metals and Materials International*, Vol. 7:83-89 (2001) doi:10.1007/BF03026944.
- 01-3 Robert Hoeller, M. Kasahara, S. Tohno, T. A. Cahill, S. S. Cliff, M. Jimenez-Cruz, R. Miller and K. D. Perry. **Regional character of highly absorbing aerosols in Japan.** *Journal of the Air and Waste Management Association*, Vol. (2001) .
- 01-4 Graham Bench, P.G. Grant, D. Ueda, S.S. Cliff, K.D. Perry, and T. A. Cahill. **The use of STIM and PESA to respectively measure profiles of aerosol mass and hydrogen content across Mylar rotating drum impactor samples.** *Aerosol Science and Technology*, 36:642-651 (2001).
- 00-1 Miller, Alan E. and Thomas A. Cahill. **Size and compositional analyses of biologically active aerosols from a CO<sub>2</sub> and diode laser plume.** *International Journal of PIXE*, Vol. 9, Nos. 3 & 4.5 (2000).
- 00-2 M. Abu-Allaban, W. Coulomb, A.W. Gertler, J. Gillies, W. R. Pierson, C. F. Rogers, J. C. Sagebiel, L. Tarney, T. A. Cahill. **Exhaust particle size distribution measurements at the Tuscarora Mountain Tunnel.** *Aerosol Science & Technology*, 36:771-789 (2002) doi: 10.1080/0278682029003840 1
- 99-1 Perry, Kevin D. **Effects of outdoor pyrotechnic displays on the regional air quality of western Washington state.** *Journal of the Air and Waste Management Association*, Vol. 49:146-155 (1999) <http://dx.doi.org/10.1080/10473289.1999.10463791>
- 99-2 Dutcher, Dabrina D, Kevin D. Perry, Thomas A. Cahill and Scott Copeland. **Effects of indoor pyrotechnic displays on the air quality in the Houston Astrodome.** *Journal of the Air and Waste Management Association*, Vol. 49:156-160 (1999) <http://dx.doi.org/10.1080/10473289.1999.10463790>
- 99-3 Perry, Kevin D., Thomas A. Cahill, Russell C. Schnell, and Joyce M. Harris. **Long-range transport of anthropogenic aerosols to the NOAA Baseline Station at Mauna Loa Observatory, Hawaii.** *Journal of Geophysical Research Atmospheres*, Vol. 104, No. D15, Pages 18,521-18,533 (1999) doi:10.1029/1998JD100083

- 98-1 Cahill, Thomas A., and Robert A. Eldred. Particulate selenium in the atmosphere. *Environmental Chemistry of Selenium*, edited by W.T. Frankenberger and R.A. Engberg, Marcel Dekker, New York, pp 613-632-116 (1998)
- 98-2 Pryor, S.C., R. J. Barthelmie, L. L. S. Geernaert, T. Ellerman, and K. Perry. **Aerosols in the Western Baltic: Results from ASEPS '97**: Abstract of the 1998 International Aerosol Conference, Edinburgh. *Journal of Aerosol Science*, 29:21-22 (1998) doi:10.1016/S0021-8502(98)00087-1
- 98-3 Castaneda, Carlos M.; T.A. Cahill; J.L. Romero and R.S. King. **Depth Profiling of Hydrogen in Amorphous Media and Applicable to Quartz Air Filters**. *Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials and Atoms*, 145: 553-561 (1998) [http://dx.doi.org/10.1016/S0168-583X\(98\)00506-0](http://dx.doi.org/10.1016/S0168-583X(98)00506-0)
- 97-1 Cahill, Thomas A., and Kevin D. Perry. Asian Transport of Aerosols to Mauna Loa Observatory, Spring. 1994 *Climate Monitoring and Diagnostics Laboratory, No. 23*, Summary Report 1994-1995, U.S. Department of Commerce National Oceanic and Atmospheric Administration Environmental Research Laboratories/CMDL 94-95, pp 114-116.
- 97-2 Gillette, D.A., D.W. Fryrear, J.B. Xiao, P. Stockton, D.M. Ono, P.J. Helm, T.E. Gill, and T. Ley. **Large-scale Variability of Wind Erosion Mass Flux Rates at Owens Lake: 1. Vertical Profiles of Horizontal Mass Fluxes of Wind-eroded Particles with Diameter Greater than 50  $\mu\text{m}$** . *Journal of Geophysical Research* 102:(D22)25977-25987 (1997).
- 97-3 Eldred, Robert A., T.A. Cahill, R.G. Flocchini. Composition of PM<sub>2.5</sub> and PM<sub>10</sub> Aerosols in the IMPROVE Network. 1997 *Journal of the Air and Waste Management Association*. Vol. 47: 194 - 203.
- 97-4 Eldred, Robert A. Comparison of Selenium and Sulfur at Remote Sites Throughout the United States. 1997 *Journal of the Air & Waste Management Association*. Vol. 47:204-211.
- 97-5 Turn, S.Q., B.M. Jenkins, J.C. Chow, L.C. Pritchett, D. Campbell, T. Cahill, and S. A. Whalen. Elemental characterization of particulate matter emitted from biomass burning: wind tunnel derived source profiles for herbaceous and wood fuels. 1997 *Journal of Geophysical Research*, 102, 3683-3699.
- 97-6 Eldred, Robert A., and Thomas Cahill. Sulfate Sampling Artifact from SO<sub>2</sub> and Alkaline Soil. 1997 *Environmental Science & Technology*. Vol. 31, No. 5, 1320-1324.
- 97-7 Cahill, T.A. and Zubillaga, J. The role of ion beam based analyses in Global Climate Research. 1997 *Application of Accelerators I Research and Industry*, Proceedings of the Fourteenth International Conference, Denton Texas, Part One, 525-529.

- 97-8 Perry, Kevin, Cahill, T.A., Eldred, R. A., Dutcher, D.D, Gill, T.E. Long-range transport of North African dust to the eastern United States. 1996 *Journal of Geophysical Research-Atmospheres*, 102, D10, 11,225-11,238.
- 97-09 Gillette, D.A., D.W. Fryrear, T.E. Gill, T. Ley, T.A. Cahill, and E.A. Gearhart. 1997 Relation of vertical flux of particles smaller than 10  $\mu\text{m}$  to total aeolian horizontal mass flux at Owens Lake. *Journal of Geophysical Research* 102 (D22):26009-26015.
- 97-10 Cahill, Catherine F., D.D Dutcher, P.H. Wakabayashi, M. Geever, and S.G. Jennings. 1997 The size-resolved chemical composition of natural and anthropogenic aerosols at Mace Head, Ireland. Proceedings of a Specialty Conference sponsored by Air & Waste Management Association and the American Geophysical Union. *Visual Air Quality: Aerosol and Global Radiation Balance*, Vol. I, pp. 487-497.
- 97-11 Perry, Kevin D., T.A. Cahill, R.C. Schnell, J.M. Harris. 1997 Long-range transport of anthropogenic aerosols to the NOAA Baseline Station at Mauna Loa Observatory, Hawaii. Proceedings of a Specialty Conference sponsored by Air & Waste Management Association and the American Geophysical Union. *Visual Air Quality: Aerosol and Global Radiation Balance*, Vol. I, pp. 130-139.
- 97-12 Campbell, D., B.P. Perley, and R.A. Eldred. 1997 Measurement of the aerosol absorption coefficient for the IMPROVE network. Proceedings of a Specialty Conference sponsored by Air & Waste Management Association and the American Geophysical Union. *Visual Air Quality: Aerosol and Global Radiation Balance*, Vol. I, pp. 281-291.
- 97-13 Cahill, Thomas A., R.A. Eldred, L.A. Ashbaugh, K. Bowers. 1997 Fine particulate matter in the Cascade, Sierra Nevada, and San Bernardino Mountains. Proceedings of a Specialty Conference sponsored by Air & Waste Management Association and the American Geophysical Union. *Visual Air Quality: Aerosol and Global Radiation Balance*, Vol. II, pp. 610-623.
- 97-14 Higashi, Richard M., D.D Dutcher, L.A. Ashbaugh. 1997 Analysis of organic matter in aerosols by thermal desorption/pyrolysis GC-MS. Proceedings of a Specialty Conference sponsored by Air & Waste Management Association and the American Geophysical Union. *Visual Air Quality: Aerosol and Global Radiation Balance*, Vol. I, pp. 983-990.
- 97-15 Dutcher, Dabrina D, K.P. Perry, T.A. Cahill. 1997 Water and volatile particulate matter contributions to fine aerosol gravimetric mass. Proceedings of a Specialty Conference sponsored by Air & Waste Management Association and the American Geophysical Union. *Visual Air Quality: Aerosol and Global Radiation Balance*, Vol. II, pp. 991-999.

- 97-16 Cahill, Thomas A., K.D. Perry, Dutcher, D.D, R.A. Eldred, D.E. Day. 1997 Size/compositional profiles of aerosols at Great Smoky Mountains National Park during SEAVS. Proceedings of a Specialty Conference sponsored by Air & Waste Management Association and the American Geophysical Union. *Visual Air Quality: Aerosol and Global Radiation Balance*, Vol. II, pp. 1049-1056.
- 97-17 Cahill, Thomas A., D. D Dutcher, K.D. Perry, R.A. Eldred, C.P. Castaneda, R.M. Higashi. 1997 Organic Aerosols at Great Smoky Mountains National Park during SEAVS. Proceedings of a Specialty Conference sponsored by Air & Waste Management Association and the American Geophysical Union. *Visual Air Quality: Aerosol and Global Radiation Balance*, Vol. II, pp. 1057-1065.
- 97-18 Eldred, Robert A. 1997 Regional patterns of fine carbonaceous particle concentrations at remote sites throughout the United States. Proceedings of a Specialty Conference sponsored by Air & Waste Management Association and the American Geophysical Union. *Visual Air Quality: Aerosol and Global Radiation Balance*, Vol. II, pp. 1066-1077.
- 97-19 Cahill, Thomas, et al. X-Ray Analyses of Elemental Concentrations in Feathers: comparison of XRF and PIXE. *International Journal of PIXE*, Vol 7, Nos. 1 & 2. 1997
- 96-1 T.A. Cahill, D. Bacon, T.A. Tombrello. Sailing Stones on Racetrack Playa. 1996 *The Journal of Geology*, Vol. 104, pp. 121-125.
- 96-2 R.G. Flocchini, T.A. Cahill, R. Givati. Modeling Sulfur Dioxide Concentrations in Mt. Rainier Area During PREVENT. 1996 *Atmospheric Environment*, Vol. 30, No. 2, pp. 255-267.
- 96-3 Cahill, Thomas A., Roberto Morales, Javiere Miranda. Comparative Aerosol Studies of Pacific Rim Cities - Santiago, Chile (1987); Mexico City (1987-1990); and Los Angeles, USA (1973-1987). 1996 *Atmospheric Environment*, Vol. 30, No. 5, pp. 747-749
- 96-4 Green, Mark C., Pitchford, M.L., Ashbaugh, L.L. Identification of Candidate Clean Air Corridors for the Colorado Plateau. 1996 *Journal of the Air & Waste Management Association*, Vol. 46, pp. 441-449.
- 96-5 Cahill, Thomas A. Climate Forcing by Anthropogenic Aerosols: The Role for PIXE. *Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials and Atoms*, 109/110 (1996) 402-406. PIXE Conference 1995
- 96-6 T.A. Cahill, P. Wakabayashi, T. James. Chemical State of Sulfate at Shenandoah National Park During Summer 1991 *Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials and Atoms*, 109/110 (1996) 542-547.

- 96-7 Cahill, Thomas A., Thomas E. Gill, Jeffrey S. Reid, and Elizabeth A. Gearhart. Saltating particles, playa crusts and dust aerosols from Owens (Dry) Lake, California. 1996 Abstract published in Occasional Paper #2, Desert Research Institute Quaternary Sciences Center, Presented at the *Conference on Eolian Response to Global Change, Zzyzx, CA, March 1994*. Full paper *Earth Surface Processes and Landforms* Vol. 21, 621-639.
- 96-8 Ashbaugh, L., Bishop, G., Stedman, D. Motor Vehicle Emissions Variability. 1996 *Air & Waste Management Association*, 46:667-675.
- 96-9 Gill T., Eolian sediments generated by anthropogenic disturbance of playas: Human impact on the geomorphic system, geomorphic impacts on the human system. 1996 Abstract published in Occasional paper #2, Desert Research Institute Quaternary Sciences Center, Presented at the *Conference on Eolian Response to Global Change, Zzyzx, CA, March 1994*. *Geomorphology* Vol. 17:207-228.
- 96-10 Malm, W., Molenaar, J., Eldred, R., Sisler, J. Examining the Relationship Among Atmospheric Aerosols and Light Scattering and Extinction in the Grand Canyon Area. 1996 *Journal of Geophysical Research/American Geophysical Union*, Vol. 101 (D14), pp. 19,251-19,265.
- 96-11 Cahill, Thomas A., John J. Carroll, Dave Campbell, Thomas E. Gill. Status of the Sierra Nevada, Chapter 48, Air Quality. 1996 *Sierra Nevada Ecosystem Project, Final Report to Congress*. Wildland Resources Center Report No. 37, University of California, Davis. Volume II, Chapter 48, 1227-1261.
- 96-12 Elliott-Fisk, Deborah L., et al. Status of the Sierra Nevada, Chapter 48, Air Quality. 1996 *Sierra Nevada Ecosystem Project, Final Report to Congress*. Wildland Resources Center Report No. 37, University of California, Davis. Volume III, Chapter 7, 217-264.
- 96-13 Miranda, J., E. Andrade, A. Lopez-Suarez, R. Ledesma, T.A. Cahill, P.H. Wakabayashi. A receptor model for atmospheric aerosols from a southwestern site in Mexico City. 1996 *Atmospheric Environment*. Vol. 30, No. 20, pp. 3471-3479.
- 95-1 Campbell, Dave, Scott Copeland, and Thomas Cahill. Measurement of aerosol absorption coefficient from teflon filters using integrating plate and integrating sphere techniques. 1995 *Aerosol Science & Technology*, 22:287-292.  
\*Campbell, David, S. Copeland, and T. Cahill. Comment on "Measurement of Aerosol Absorption Coefficient from Teflon using the Integrating Plate and Integrating Sphere Techniques". 1996 *Aerosol Science and Technology* 24:221-224.  
\*Campbell, Dave, and Thomas Cahill. Addendum to Response. 1996 *Aerosol Science and Technology* 24:290.

- 95-2 Thomas Cahill, Dale Gillette, D.W. Fryrear, Trevor Ley, Elizabeth Gearhart, Thomas Gill. Ratio of Vertical Flux of PM10 to Total Horizontal Mass Flux of Airborne Particles in Wind Erosion for a Loam Textured Soil: Results of the Lake Owens Dust Experiment (LODE). 1995 *Air and Waste Management Association*, 88th Annual Meeting, San Antonio, Texas, Paper No. 95-TA38.02, pp. 1-16.
- 95-3 Ashbaugh, L., Zhang, Y., Beaton, S., Bishop, G., Lawson, D., Stedman, D. On-Road Vehicle Emissions: Regulations, Costs, and Benefits. 1995 *Science*, Vol. 268:991-993.
- 95-4 Cahill, Thomas A. Compositional Analysis of Atmospheric Aerosols. 1995 *Particle-Induced X-Ray Emission Spectrometry*, Edited by Sven A. E. Johansson, John L. Campbell, and Klas G. Malmqvist. *Chemical Analysis Series*, Vol. 133, pp. 237-311. John Wiley & Sons, Inc.
- 95-5 Thomas A. Cahill, and Bruce Kusko. Compositional and Structural Studies of the Vinland Map and Tartar Relation. 1995
- 95-6 Kevin D. Perry, and Thomas A. Cahill. **Spatial and Temporal Patterns of Fine (PM 2.5) Particles in Western Washington State.** *Atmospheric Environment*, 1995. (Need Original)
- 94-1 Malm, W.C., Sisler, J.F., Huffman, D., Eldred, R.A. and Cahill, T.A.. Spatial and seasonal trends in particle concentration and optical extinction in the United States. 1994 *Journal of Geophysical Research*, VOL. 99, No. D1, 1347-1370, January 20,
- 94-2 Reid, J.S., Flocchini, R.G., Cahill, T.A., Ruth, R.S., and Salgado, D.P. Local Meteorological Transport, and Source Aerosol Characteristics of Late Autumn Owens Lake (Dry) Dust Storms. 1994 *Atmospheric Environment*, Vol. 28, No. 0, pp. 1699-1706
- 94-3 Malm, W. C., Gebhart, K.A., Molenaar, J., Cahill, T.A., Eldred, R.E. and Huffman, D. Examining the relationship between atmospheric aerosols and extinction at Mount Rainier National Park. 1994 *Atmospheric Environment* Vol. 28, No. 2., 347-360.
- 94-4 Eldred, Robert A. and Thomas A. Cahill. Trends in elemental concentrations of fine particles at remote sites in the United States. 1994 *Atmospheric Environment*, Vol. 28, No. 5, pp. 1009-1019.
- 94-5 Reid, Jeffrey S., Thomas A. Cahill, and Micheal R. Dunlap. Geometric/aerodynamic equivalent diameter ratios of ash aggregate aerosols collected in burning Kuwaiti well fields. 1994 *Atmospheric Environment*, Vol.28, No. 13, pp. 2227-2234.
- 94-6 Miranda, Javier, Thomas A. Cahill, and J. Roberto Morales. Determination of elemental concentrations in atmospheric aerosols in Mexico City using proton induced x-ray emission, proton elastic scattering, and laser absorption. 1994 *Atmospheric Environment*, Vol. 28, No. 14, pp. 2299-2306.

- 94-7 Molenaar, J., Dietrich, D., Cismoski, D., Cahill, T., Wakabayashi, P. Aerosols and Visibility at Lake Tahoe. Proceedings of the AWMA International Specialty Conference, Snowbird, UT, Sept. 26-30, 1994. *Aerosols and Atmospheric Optics: Radiative Balance and Visual Air Quality*, Volume A, VIP-41, pp. 835-846.
- 93-1 Cahill, Thomas A. and Paul Wakabayashi. Compositional analysis of size-segregated aerosol samples. Chapter in the ACS book *Measurement Challenges in Atmospheric Chemistry*. Leonard Newman, Editor. Chapter 7, Pp. 211-228 (1993).
- 93-2 Reid, J.S., T.A. Cahill, E.A. Gearhart, R.G. Flocchini, J.S. Schweitzer, and C.A. Peterson. Elemental analysis of Kuwaiti petroleum and combustion products. *Journal of Nuclear Geophysics*. Vol. 7, No. 1, Pp. 81-86 (1993).
- 93-3 Cahill, Thomas A. The international fine aerosol networks. *Nuclear Instruments and Methods in Physics Research*. B75, Pp. 217-221 (1993).
- 93-4 Zeng, Xianzhou, Xiankang Wu, Huiying Yao, Fujia Yang, and Thomas A. Cahill. PIXE-Induced XRF with transmission geometry. *Nuclear Instruments and Methods in Physics Research*. B75, Pp. 99-104 (1993).
- 93-5 Cahill, T.A. and R.G. Flocchini. Opportunities in nuclear science education at the Crocker Nuclear Laboratory of the University of California, Davis. *Journal of Radioanalytical and Nuclear Chemistry* on the "Status of Nuclear Science Education.". T. Braun, Editor-in-Chief. Vol. 171, No. 1, Pp. 119-123, June (1993).
- 93-6 Cahill, Thomas A. The WHITEX study and the role of the scientific community: A critique. *Journal of the Air & Waste Management Association*. C.V. Mathai, Editor. Vol. 43, pp. 1305-1306, September (1993).
- 93-7 Shackelford, James F., Subhash H. Risbud, Bruce H. Kusko, Thomas A. Cahill, Peter P. Bihuniak, and Michael E. Hanson. Characterization of ceramics and glass using proton-induced x-ray emission. *American Ceramic Society Bulletin*. Vol. 72, No. 11, Pp. 100-105, November (1993).
- 93-8 Sisler, James F. and Thomas A. Cahill. Spatial and temporal patterns and the chemical composition of the haze and its impact on visibility in Alaska. Transactions of AWMA, Denver, CO, June 13-18, 1993. Paper No. 93-MP-4.03 (1993).
- 93-9 Eldred, Robert A., Thomas A. Cahill, and Patrick J. Feeney. Comparison of independent measurements of sulfur and sulfate in the IMPROVE Network. Transactions of AWMA, Denver, CO, June 13-18, 1993. Paper No. 93-RA-110.02 (1993).

- 93-10 Eldred, Robert A., Thomas A. Cahill, and William C. Malm. Ten-year trends in sulfur concentrations at National Parks throughout the United States. Transactions of AWMA, Denver, CO, June 13-18, 1993. Paper No. 93-MP-4.06 (1993).
- 93-11 Eldred, Robert A. and Thomas A. Cahill. Control of organic artifact on Teflon filters by quality assurance procedures. Transactions of AWMA, Denver, CO, June 13-18, 1993. Paper No. 93-RA-110.03 (1993).
- 93-12 Cahill, Thomas A.. Fine Sulfur Concentrations at the Mauna Loa Observatory and Other Hawaiian Sites. *Climate Monitoring and Diagnostics Laboratory No. 21, Summary Report 1992, US Dept of Commerce, December 1993.*
- 93-13 Cruvinel, P., Flocchini, R. Determination of Se in soil samples using the proton induced X-ray emissions technique. *Nuclear Instruments and Methods, Section B, 75:415-419, 1993.*
- 93-14 Cruvinel, P. Flocchini, R., Crestana, S., Morales, J., Miranda, J., Kusko, B., Nielsen, D. Studying the influence of the aggregate sizes on some elements of an oxisol with PIXE. *Soil Science, 155:100-104, 1993.*
- 93-15 Reid, Jeffrey S., Thomas A. Cahill, Robert G. Flocchini, Bruce White, Micheal R. Dunlap, and Duane M. Ono. Characteristics of fugitive dusts generated at Owens Lake (dry), California, during the fall dust season. A&WMA Conference, Denver, CO, June 13-18, 1993. *Air & Waste Management Association, paper number 93-TA-28.03.*
- 92-1 Dorn, R.I., A.J.T. Jull, D.J. Donahue, T.W. Linick, L.J. Toolin, R.B. Moore, M. Rubin, T.E. Gill, and T.A. Cahill. Rock varnish on Hualalai and Mauna Kea volcanoes, Hawaii. *Pacific Science. Vol. 46, No. 1, Pp. 11-34, January (1992).*
- 92-2 Miranda, J., J.R. Morales, T.A. Cahill, F. Aldape, and J. Flores M. A study of elemental contents in atmospheric aerosols in Mexico City. *Atmosfera. Julian Adem, Editor. Vol. 5, No. 2, Pp. 95-108, April (1992).*
- 92-3 Cahill, Thomas A. Comment and replies on "Accuracy of rock-varnish chemical analyses: implications for cation-ratio dating". *Geology. David Fountain, Editor. Vol. 20, P. 469, May (1992).*
- 92-4 Cahill, Thomas A., Kent Wilkinson, Paul Wakabayashi, Robert Eldred, and William Malm. Observation of oil smoke in the upper troposphere at Mauna Loa Observatory - a middle eastern source? *CMDL No. 20 Summary Report 1991 Eldon E. Ferguson, Editor. Boulder, CO. pp. 89-90, December (1992).*

- 92-5 Cahill, Thomas A., Kent Wilkinson, and Russ Schnell. Composition analyses of size-resolved aerosol samples taken from aircraft downwind of Kuwait, Spring, 1991. *Journal of Geophysical Research*. Vol. 97, No. D13, Paper no. 92JD01373, Pp. 14513-14520, September 20 (1992).
- 92-6 Dorn, Ronald I., David H. Krinsley, Tanzhuo Liu, Steve Anderson, James Clark, Thomas A. Cahill, and Thomas E. Gill. Manganese-rich rock varnish does occur in Antarctica. *Chemical Geology*. Elsevier Science Publisher B.V., Amsterdam. Vol. 99, Pp. 289-298. (1992).
- 92-7 Matsumura, Robert T., Robert G. Flocchini, Thomas A. Cahill, Omar Carvacho, and ZhiQiang Lu. Measurement of fugitive PM<sub>10</sub> emissions from selected agricultural practices in the San Joaquin Valley. Transactions of the PM<sub>10</sub> Standards and Nontraditional Particulate Source Controls. Air & Waste Management Association/EPA International Specialty Conference. January 12-15, 1992. Air & Waste Management Association. Judith C. Chow and Duane M. Ono, Editors. Vol. I, No. 22, pp. 417-432 (1992).
- 92-8 Gill, Thomas E. and Thomas A. Cahill. Drying saline lake beds: A regionally significant PM<sub>10</sub> source. Transactions of the PM<sub>10</sub> Standards and Nontraditional Particulate Source Controls. Air & Waste Management Association/EPA International Specialty Conference. January 12-15, 1992. *Air & Waste Management Association*. Judith C. Chow and Duane M. Ono, Editors. Vol. I, No. 22, Pp. 440-454 (1992).
- 92-9 Teague, S., Raabe, O., Eldred, R. A bench top wind tunnel for testing PM<sub>10</sub> sampling inlets. Transaction of the PM<sub>10</sub> standrads and nontraditional particulate source controls. Air & Waste Management Association/EPA International Specialty Conference. January 12-15, 1992. *Air & Waste Management Association*. Chow, J. And Ono, D., Editors. Vol. 1, No. 22, pp. 2-12 (1992).
- 92-10 Gill, Thomas E. and Thomas A. Cahill. Playa-generated dust storms from Owens Lake. *IN the History of Water: Eastern Sierra Nevada, Owens Valley, White-Inyo Mountains*. Clarence A. Hall, Jr., Victoria Doyle-Jones, and Barbara Widawski; Editors. Proceedings of the Fourth White Mountain Research Station Symposium. University of California, Los Angeles, CA. Vol. 4, Pp. 63-73 (1992).
- 92-11 Shackelford, James F., Bruce H. Kusko, Thomas A. Cahill, Peter P. Bihuniak, and Michael E. Hanson. Characterization of glass surfaces and coatings using the proton milliprobe. *Bol. Soc. Esp. Ceram. Vid.*, Vol. 31-C7, Pp. 111-116 (1992).
- 92-12 Malm, William C., Kristi A. Gebhart, John Molenar, Thomas Cahill, and Robert Eldred. Apportionment of aerosol extinction at Mount Rainier and North Cascades National Parks. A&WMA 85th Annual Meeting and Exhibition. Kansas City, MO, June 21-26, 1992. Paper No. 92-60.02 (1992).

- 91-1 McColm, D.W. and T.A. Cahill. The temperature profile of a microprobe. *Nuclear Instruments and Methods in Physics Research*. B54, Pp. 91-97 (1991).
- 91-2 Cahill, Thomas A., Javier Miranda, and Roberto Morales. Survey of PIXE programs - 1991. *International Journal of PIXE*. S. Morita, Editor-in-Chief. Vol. 1, No. 4, Pp. 297-310 (1991).
- 91-3 Aldape, F., J. Flores M., R.V. Diaz, J. Miranda, T.A. Cahill, and J.R. Morales. Two year study of elemental composition of atmospheric aerosols in Mexico City. *International Journal of PIXE*. S. Morita, Editor-in-Chief. Vol. 1, No. 4, Pp. 373-388 (1991).
- 91-4 Aldape, F., J. Flores M., R.V. Diaz, J.R. Morales, T.A. Cahill, and L. Saravia. Seasonal study of the composition of atmospheric aerosols in Mexico City. *International Journal of PIXE*. S. Morita, Editor-in-Chief. Vol. 1, No. 4, Pp. 355-371 (1991).
- 91-5 Malm, W.C., Golestani, Y., Cahill, T.A., Eldred, R.A., Poirot, R. and Gebhart, K.A. Estimation of Aerosol Acidity in the Eastern United States paper number 91-89.3, *AWMA, 84th Annual Meeting and Exhibition*. Vancouver, British Columbia, June 16-21, (1991).
- 90-1 Hering, Susanne V., Bruce R. Appel, W. Cheng, F. Salaymeh, Steven H. Cadle, Patricia A. Mulawa, Thomas A. Cahill, Robert A. Eldred, Marcelle Surovik, Dennis Fitz, James E. Howes, Kenneth T. Knapp, Leonard Stockburger, Barbara J. Turpin, James J. Huntzicker, Xin-Qui Zhang, and Peter H. McMurry. Comparison of sampling methods for carbonaceous aerosols in ambient air. *Aerosol Science and Technology*. 12:200-213 (1990).
- 90-2 Cahill, Thomas A., Marcelle Surovik, and Ian Wittmeyer. Visibility and aerosols during the 1986 carbonaceous species methods comparison study. *Aerosol Science and Technology*. 12:149-160 (1990).
- 90-3 Dorn, Ronald, I., Thomas A. Cahill, Robert A. Eldred, Thomas E. Gill, Bruce H. Kusko, Andrew J. Bach, and Deborah L. Elliott-Fisk. Dating rock varnishes by the cation ratio method with PIXE, ICP, and the electron microprobe. *International Journal of PIXE*. S. Morita, Editor-in-Chief. Vol. 1, No. 2, Pp. 157-195, June (1990).
- 90-4 Cahill, Thomas A., Robert A. Eldred, Leland K. Wilkinson, Brian P. Perley, and William C. Malm. Spatial and temporal trends of fine particles at remote US sites. *Proceedings of the 83rd Annual Meeting of the Air & Waste Management Association*. June 24-29, 1990. Pp. 24-29 (1990).
- 90-5 Cahill, Thomas A. Analysis of air pollutants by PIXE: The second decade. *Nuclear Instruments and Methods in Physics Research*, North-Holland. B49:345-350 (1990).
- 90-6 Cahill, Thomas A. Design constraints on aerosol samplers used in visibility studies in the southwest. In *Visibility and Fine Particles*. C.V. Mathai, Editor. Pittsburgh, PA. Pp. 97-108 (1990).

- 90-7 Eldred, Robert A., Thomas A. Cahill, L. Kent Wilkinson, Patrick J. Feeney, Judith C. Chow, and William C. Malm. Measurement of fine particles and their chemical components in the IMPROVE/NPS networks. In *Visibility and Fine Particles*. C.V. Mathai, Editor. Pittsburgh, PA. Pp. 187-196 (1990).
- 90-8 Cahill, Thomas A., Robert A. Eldred, Patrick J. Feeney, Peter J. Beveridge, and L. Kent Wilkinson. The stacked filter unit revisited. In *Visibility and Fine Particles*. C.V. Mathai, Editor. Pp. 213-222 (1990).
- 90-9 Testa, John P., Jr., John R. Stephens, Walter W. Berg, Thomas A. Cahill, Takashi Onaka, Yoshikazu Nakada, James R. Arnold, Norman Fong, and Paul D. Sperry. Collection of microparticles at high balloon altitudes in the stratosphere. *Earth and Planetary Science Letters*. Elsevier Science Publishers B.V., Amsterdam, 98:287-302 (1990).
- 90-10 McColm, Douglas W. and Thomas A. Cahill. Central temperature of convectively cooled thin targets during ion beam analysis. *Nuclear Instruments and Methods in Physics Research*, North-Holland. B51:196-197 (1990)
- 90-11 Motallebi, Nehzat, Thomas A. Cahill, and Robert G. Flocchini. Influence of particulate size on statistical studies of visibility at California regions. *Atmosfera*. Pp. 111-126 (1990).
- 90-12 Motallebi, Nehzat, Robert G. Flocchini, Leonard O. Myrup, and Thomas A. Cahill. A principal component analysis of visibility and air pollution in six California cities. *Atmosfera*. Pp. 127-141 (1990).
- 90-13 Mathai, C.V., John G. Watson, Jr., C. Fred Rogers, Judith C. Chow, Ivar Tombach, Judith O. Zwicker, Thomas Cahill, Patrick Feeney, Robert Eldred, Marc Pitchford, and Peter K. Mueller. Intercomparison of ambient aerosol samplers used in western visibility and air quality studies. *Environmental Science & Technology*. Vol. 24, No. 7, Pp. 1090-1099 (1990).
- 90-14 Cahill, T.A., R.A. Eldred, K. Wilkinson, W.C. Malm, M. Pitchford, and R. Fisher. Spatial and temporal trends of fine particles on a continental scale: First results of the U.S. IMPROVE network. Proceedings of the third International Aerosol Conference in Kyoto, Japan. September 24-27. *Aerosols*. Senich Masuda and Kanji Takahashi, Editors. Vol. 2, Pp. 1105-1108 (1990).
- 90-15 Cahill, Thomas A., L.K. Wilkinson, and R.A. Eldred. Chemical resolution of fine aerosol mass at Mauna Loa: The role of organic matter. *CMDL No. 18 Summary Report 1989*. Walter D. Komhyr, Editor. Pp. 88-91, December (1990).
- 90-16 Flocchini, R., Husar, R., Poirot, R. Winter fine particle composition in the Northwest: Preliminary results from the NESCAUM monitoring network. *Air & Waste Management Association*. 83<sup>rd</sup> Annual Meeting and Exhibition, Pittsburgh, PA, June 24-29, 1990. Paper number 90:84.5.

- 90-17 Flocchini, Robert G., T.A. Cahill, R.A. Eldred, P.J. Feeney. Particulate Sampling in the Northeast: A Description of the Northeast States for Coordinated Air Use Management (NESCAUM) Network. *Visibility and Fine Particles*, C.V. Mathai, Editor, Pittsburgh, PA. Pp. 197-206.
- 89-1 Ewell, D.M., R.G. Flocchini, L.O. Myrup, and T.A. Cahill. Aerosol transport in the Southern Sierra Nevada. *Journal of Applied Meteorology*. Vol. 28, No. 2, Pp. 112-125, February (1989).
- 89-2 Cahill, T.A., R.A. Eldred, N. Motallebi, and W.C. Malm. Indirect measurement of hydrocarbon aerosols across the United States by nonsulfate hydrogen-remaining gravimetric mass correlations. *Aerosol Science and Technology*. 10:421-429 (1989).
- 89-3 Kusko, Bruce, Thomas A. Cahill, Robert A. Eldred, Yatsuka Matsuda, and Hiroshi Miyake. Nondestructive analysis of total nonvolatile carbon by Forward Alpha Scattering Technique (FAST). *Aerosol Science and Technology*. 10:390-396 (1989).
- 89-4 Cahill, T.A., Kusko, B., Eldred, R., Schwab R. Compositional comparison of the Mark Hoffman "Oath of a Freeman" and the "Whole Book of Psalms". In *The Judgment of Experts. Essays and Documents about the Investigation of the Forging of The Oath of a Freeman*, J. Gilreath, Editor. American Antiquarian Society 1991, pp 75-96.
- 89-5 Cahill, Thomas A. Accelerators for dating and forensics. Fermilab Industrial Affiliates Ninth Annual Meeting. *Fermilab Industrial Affiliates Roundtable on Applications of Accelerators*. Richard C., Jr., Editor. Pp. 91-114, May 26-27 (1989).
- 89-6 Cahill, Thomas, Robert Matsumura, Brian Perley, Robert Eldred, Kent Wilkinson, and Bruce Kusko. Total elemental analysis filters in SCAQS. *Proceedings of the Air and Waste Management Association 82nd Annual Meeting and Exhibition*. Anaheim, CA, June 25-30. Paper No. 89-140.5:1-15 (1989).
- 89-7 Campbell, Dave, Scott Copeland, Thomas Cahill, Robert Eldred, Cathy Cahill, James Vesenka, and Tony VanCuren. The coefficient of optical absorption from particles deposited on filters: integrating plate, integrating sphere, and coefficient of haze measurements. *Proceedings of the Air and Waste Management Association 82nd Annual Meeting and Exhibition*. Anaheim, CA, June 25-30. Paper No. 89-151.6:1-14 (1989).
- 89-8 Gill, Thomas E., Tony N. Tanada, Thomas A. Cahill, Dan Taylor, and Harold Matsuura. Air quality on Hawaii Island during a Kilauea eruption. *Proceedings of the Air and Waste Management Association 82nd Annual Meeting and Exhibition*. Anaheim, CA, June 25-30. Paper No. 89-66A.4:1-15 (1989).

- 89-9 Cahill, Thomas, Robert Matsumura, Paul Wakabayashi, and Marcelle Surovik. Size-resolved aerosols and visibility during the Southern California air quality study. *Proceedings of the Air and Waste Management Association 82nd Annual Meeting and Exhibition*. Anaheim, CA, June 25-30. Paper No. 89-154.3:1-19 (1989).
- 89-10 Eldred, R.A., T.A. Cahill, L.K. Wilkinson, P.J. Feeney, and William C. Malm. Particulate characterization at remote sites across the U.S.: First year results of the NPS/IMPROVE Network. *Proceedings of the Air and Waste Management Association 82nd Annual Meeting and Exhibition*. Anaheim, CA, June 25-30. Paper No. 89-151.3:1-16 (1989).
- 89-11 Pedersen, Brian S. and Thomas A. Cahill. Ozone at a remote, high-altitude site in Sequoia National Park, California. *Transactions of Effects of Air Pollution on Western Forests, Air & Waste Management Association*. Richard K. Olson and Allen S. Lefohn, Editors. Anaheim, CA. Vol. 16, Pp. 207-220, June (1989).
- 89-12 Unger, Charles. Analysis of a summertime acid rain event in the Sierra Nevada, *Transaction of Effects of Air Pollution on Western Forests, Air & Waste Management Association*. Olson, R., Lefohn, A., Editors. Anaheim, CA. 16:137-146, June 1989.
- 89-13 Cahill, T.A., L.K. Wilkinson, P. Beveridge, and T. Tanada. Fine particulate matter at Mauna Loa Observatory March 1988 to February 1989. *Geophysical Monitoring for Climatic Change*. No. 17, Summary Report 1988, Pp. 82-84, December (1989).
- 88-1 Raabe, Otto G., David A. Braaten, Richard L. Axelbaum, Stephen V. Teague, and Thomas A. Cahill. Calibration Studies of the DRUM Impactor. *Journal of Aerosol Science*. 19.2:183-195 (1988).
- 88-2 Cahill, Thomas A. Investigation of particulate matter by size and composition during WATOX, January 1986. *Global Biogeochemical Cycles*. 2.1:47-55, Paper No. 8J0052, March (1988).
- 88-3 Gill, T.E., B.H. Kusko, C. Higgins, S. Howard, and T.A. Cahill. Site variation in provenance studies: The Carrara Marble example. *Proceedings of the International Archaeometry Symposia*. Toronto, Ontario, May. R. Farguhar, R. Hancock, and L. Pavlish; Editors. 26:210-219 (1988).
- 88-4 Cahill, Thomas A., Marcelle Surovik, Robert A. Eldred, Patrick J. Feeney, and Nehzat Motallebi. Visibility and particulate size at the 1986 "Carbon Shoot-out" and 1987 "WHITEX" programs. *Proceedings of the Air Pollution Control Association 81st Annual Meeting*. Dallas, TX, June 19-24. Paper No. 88-54.2:1-20 (1988).
- 88-5 Kusko, Bruce H., Thomas A. Cahill, and Robert A. Eldred. Non-destructive light element analysis by forward ion scattering techniques. *Proceedings of the Air Pollution Control Association 81st Annual Meeting*. Dallas, TX, June 19-24. Paper No. 88-53.4:1-16 (1988).

- 88-6 Eldred, Robert A., Thomas A. Cahill, Marc Pitchford, and William C. Malm. IMPROVE--a new remote area particulate monitoring system for visibility studies. *Proceedings of the Air Pollution Control Association 81st Annual Meeting*. Dallas, TX, June 19-24. Paper No. 88-54.3:1-16 (1988).
- 88-7 Annegarn, H.J., T.A. Cahill, JPF Sellschop, and A. Zucchiatti. Time sequence particulate sampling and nuclear analysis. Adriatico Research Conference on Aerosols. Trieste, Italy, July 22-25, 1986. *Physica Scripta*. 37:282-290 (1988).
- 88-8 Dorn, Ronald I., Margaret Nobbs, and Tom A. Cahill. Cation-ratio dating of rock-engravings from the Olary Province of arid South Australia. *Antiquity*. 62-237:681-689, December (1988).
- 88-9 Kusko, Bruce H. Cyclotron analysis of paper and ink reveals secrets of the written and printed work. Special Session on dating manuscripts: Current scientific techniques for the identification of paper and ink. San Francisco, CA, December 28, 1987. *Literary Research*. Marcuse, M., Editor. Vol. 13, Nos., 2 & 3, pp. 123-133 (1988).
- 87-1. Cahill, T.A., R.N. Schwab, B.H. Kusko, R.A. Eldred, G. Moller, D. Dutschke, D.L. Wick, and A.S. Pooley. The Vinland Map, revisited: New compositional evidence on its inks and parchment. *Analytical Chemistry*. 59:829-833 (1987).
- 87-2 Tang, S.M., R.A. Eldred, P.J. Feeney, and T.A. Cahill. On background subtraction in PIXE analysis of aerosol samples. Fourth International PIXE Conference. Tallahassee, FL, June 9-13, 1986. *Nuclear Instruments and Methods in Physics Research*. B22:372-375 (1987).
- 87-3 Anaegarn, H. J. Time series analysis of PIXE aerosol measurements. Fourth International PIXE Conference, Tallahassee, FL, June ;9-13, 1986. *Nuclear Instruments and Methods in Physics Research*. B22:270-274 (197).
- 87-4 Annegarn, H., Zucchiatti, A., Sellschop, J., Booth-Jones, P. PIXE characterization of airborne dust in the mining environment. Fourth International PIXE Conference, Tallahassee, FL, June 9-13, 1986. *Nuclear Instruments and Methods in Physics Research*. B22:289-295 (1987).
- 87-5 Eldred, Robert A., Thomas A. Cahill, and Patrick J. Feeney. Particulate monitoring at U.S. National Parks using PIXE. Fourth International PIXE Conference. Tallahassee, FL, June 9-13, 1986. *Nuclear Instruments and Methods in Physics Research*. B22:289-295 (1987).
- 87-6 Cahill, Thomas A., Robert A. Eldred, Don Wallace, and Bruce H. Kusko. The hydrogen-sulfur correlation, by PIXE plus PESA, and aerosol source identification. Fourth International PIXE Conference. Tallahassee, FL, June 9-13, 1986. *Nuclear Instruments and Methods in Physics Research*. B22:296-300 (1987).

- 87-7 Cahill, Thomas A., Patrick J. Feeney, and Robert A. Eldred. Size-time composition profile of aerosols using the drum sampler. Fourth International PIXE Conference. Tallahassee, FL, June 9-13, 1986. *Nuclear Instruments and Methods in Physics Research*. B22:344-348 (1987).
- 87-8 Kusko, B., Schwab, R. Historical analyses by PIXE. Fourth International PIXE Conference, Tallahassee, FL, June 9-13, 1986. *Nuclear Instruments and Methods in Physics Research*. B22:401-406 (1987).
- 87-9 Feeney, P.J., T.A. Cahill, H.J. Annegarn, R. Dixon, and P. Beveridge. Solar-powered aerosol samplers for use with PIXE analysis. Fourth International PIXE Conference. Tallahassee, FL, June 9-13, 1986. *Nuclear Instruments and Methods in Physics Research*. B22:349-352 (1987).
- 87-10 Malm, William C., Christopher E. Johnson, James F. Bresch, and Thomas A. Cahill. An eigenvector analysis of particulate data in the western United States. In *Transactions TR-10; Visibility Protection: Research and Policy Aspects*. P. Bhardwaja, Editor. Pittsburgh, PA: APCA, Pp. 837-860 (1987).
- 87-11 Malm, William C., Thomas Cahill, Kristi Gebhart, and Allen Waggoner. Optical characteristics of atmospheric sulfur at Grand Canyon, Arizona. In *Transactions TR-10; Visibility Protection: Research and Policy Aspects*. P. Bhardwaja, Editor. Pittsburgh, PA: APCA, Pp. 418-433 (1987).
- 87-12 Eldred, Robert A., Patrick J. Feeney, Thomas A. Cahill, and William C. Malm. Sampling techniques for fine particle/visibility studies in the National Park Service network. In *Transactions TR-10; Visibility Protection: Research and Policy Aspects*. P. Bhardwaja, Editor. Pittsburgh, PA: APCA, Pp. 646-656 (1987).
- 87-13 Eldred, Robert A., Thomas A. Cahill, Patrick J. Feeney, and William C. Malm. Regional patterns in particulate matter from the National Park Service network, June 1982 to May 1986. In *Transactions TR-10; Visibility Protection: Research and Policy Aspects*. P. Bhardwaja, Editor. Pittsburgh, PA: APCA, Pp. 386-396 (1987).
- 87-14 Cahill, Thomas A., Patrick J. Feeney, Robert A. Eldred, and William C. Malm. Size/time/composition data at Grand Canyon National Park and the role of ultrafine sulfur particles. In *Transactions TR-10; Visibility Protection: Research and Policy Aspects*. P. Bhardwaja, Editor. Pittsburgh, PA: APCA, Pp. 657-667 (1987).
- 87-15 Cahill, Thomas A., Robert A. Eldred, Bruce H. Kusko, Patrick J. Feeney, and William C. Malm. Concentrations of natural hydrocarbon particles at National Park Service sites as derived from mass/hydrogen/sulfur correlations. In *Transactions TR-10; Visibility Protection: Research and Policy Aspects*. P. Bhardwaja, Editor. Pittsburgh, PA: APCA, Pp. 407-417 (1987).

- 87-16 Cahill, Thomas A., Robert A. Eldred, Danny Shadoan, Brian P. Perley, Patrick J. Feeney, Bruce H. Kusko, and Hiroshi Miyake. Multiple detector system for rapid PIXE analysis. *Transactions of 12th International Symposium: Applications of Ion Beams in Materials Science*. Tokyo, Japan, September 2-4. Pp. 433-438 (1987).
- 87-17 Cahill, Thomas A. The nuclear bibliophile: Cyclotron studies of rare documents. Fourteenth Congress of the International Association of Bibliophiles. San Francisco, CA, September 30-October 11, 1985. *Transactions*. Stephen Tahn, Editor. Pp. 37-50 (1987).
- 87-18 Schwab, Richard N., Thomas A. Cahill, Bruce H. Kusko, Robert A. Eldred, and Daniel L. Wick. The proton milliprobe ink analysis of the Harvard B42, Volume II. *PBSA*. 81:4, Pp. 403-432, December (1987).
- 87-19 Greenberg, S. Williams, E., Perley, B., Eldred, R., Shadoan, D. PCRACE: A program for the analysis of PIXE spectra for use on an IBM PC/XT. *Nuclear Instruments and Methods in Physics Research*. B24/25:625-626 (1987).
- 86-1 Braaten, D.A. and T.A. Cahill. Size and composition of Asian dust transported to Hawaii. *Atmospheric Environment* (Great Britain). 20:1105-1109 (1986).
- 86-2 Cahill, Thomas A., Douglas W. McColm, and Bruce H. Kusko. Control of temperature in thin samples during ion beam analysis. *Nuclear Instruments and Methods*. B14:38-44 (1986).
- 86-3 Cahill, Thomas A. Particle-Induced X-Ray Emission. In *Metals Handbook, Ninth Edition, Materials Characterization*. American Society for Metals. Vol. 10, Pp. 102-108 (1986).
- 86-4 Kusko, Bruce, H. Proton milliprobe analysis of the handwritten annotations in J. S. Bach's Calov Bible. *The Calov Bible of J. S. Bach*. Cox, H., Editor. 1986.
- 86-5 Dorn, Ronald I., D.B. Bamforth, T.A. Cahill, J.C. Dohrenwend, B.D. Turrin, D.J. Donahue, A.J.T. Jull, A. Long, M.E. Macko, E.B. Weil, D.S. Whitley, and T.H. Zabel. Cation-ratio and accelerator radiocarbon dating of rock varnish on Mojave artifacts and landforms. *Science*. 231:830-833, February 21 (1986).
- 86-6 Schwab, Richard N., Thomas A. Cahill, Bruce H. Kusko, Robert A. Eldred, and Daniel L. Wick. Ink patterns in the Gutenberg New Testament: The proton milliprobe analysis of the Lilly Library copy. *PBSA*. 80, 3rd qtr:305-331 (1986).
- 86-7 Cahill, T.A. Physical methods in air pollution research: The second decade. *Physics in Environmental and Biomedical Research*. S. Onori and E. Tabet, Editors. World Scientific Pub. Co., Pp. 55-61 (1986).

- 86-8 Kusko, B.H., S. Howard, T.A. Cahill, C.G. Higgins, and D. Evans. Accelerator based analyses and the provenance of ancient marbles. *Proceedings of International Symposium on Archaeometry*. Athens, Greece, May 19-24 (1986).
- 86-9 Cahill, Thomas A., Feeney, P., Eldred, R. Use of size selective sampling to aid in source apportionment in remote areas. *Proceedings of Fifth Symposium on Environmental Analytical Chemistry*. Provo, UT, June 18. Pp. 1-21 (1986).
- 85-1 Ashbaugh, L., Malm, W., Sadeh, W. A residence time probability analysis of sulfur concentrations at Grand Canyon National Park. *Atmospheric Environment*. 19:1263-1270 (1985).
- 85-2 Matsuda, Y., Cahill, T. Alkali impregnated teflon as a filter for atmospheric SO<sub>2</sub> PIXE analysis. *Nuclear Instruments and Methods*. B6:574-584 (1985).
- 85-3 Cahill, T.A., C. Goodart, J.W. Nelson, R.A. Eldred, J.S. Nasstrom, and P.J. Feeney. Design and evaluation of the drum impactor. *Proceedings of International Symposium on Particulate and Multi-phase Processes*. Teoman Ariman and T. Nejat Veziroglu, Editors. Hemisphere Publishing Corporation, Washington, D.C. 2:319-325. (1985).
- 85-4 Malm, William C., Robert Eldred, Thomas Cahill, and John V. Molenaar. Visibility and particulate measurements in the western United States. *Proceedings of 78th Meeting of Air Pollution Control Association*. Paper No. 85-11.3 (1985).
- 85-5 Schwab, Richard N., Thomas A. Cahill, Robert A. Eldred, Bruce H. Kusko, and Daniel L. Wick. New evidence on the printing of the Gutenberg Bible: The inks in the Doheny copy. *PBSA*. 79.3:375-410 (1985).
- 85-6 Cahill, T.A., R.A. Eldred, P.J. Feeney, R.G. Flocchini, M. Pitchford, and W. Malm. Ultra-fine sulfur-containing aerosols in the West. *Proceedings of Symposium on Heterogeneous Processes in Source-Dominated Atmospheres*. New York, NY, October 8-11. R. Leifer, Editor (1985).
- 84-1 Cahill, Thomas A., Yatsuka Matsuda, Danny Shadoan, Robert A. Eldred, and Bruce H. Kusko. Forward alpha scattering techniques (FAST) for elements hydrogen through fluorine. *Nuclear Instruments and Methods*. B3:263-267 (1984).
- 84-2 Cahill, Thomas A., Robert A. Eldred, Danny Shadoan, Patrick J. Feeney, Bruce H. Kusko, and Yatsuka Matsuda. Complete elemental analysis of aerosols: PIXE, FAST, LIPM, and mass. *Nuclear Instruments and Methods*. B3:291-295 (1984).
- 84-3 Eldred, R., Cahill, T., Ashbaugh, L., Nasstrom, J. Long range transport and transformation of anthropogenic pollutants observed in a PIXE-based monitoring network. *Nuclear Instruments and Methods*. B3:479-482 (1984).

- 84-4 Eldred, Robert A., Bruce H. Kusko, and Thomas A. Cahill. The external PIXE milliprobe at Davis: Laser alignment, PIXE calibration, and quality assurance. *Nuclear Instruments and Methods*. B3:579-583 (1984).
- 84-5 Kusko, B., Cahill, R., Eldred, R., Schwab, R. Proton milliprobe analyses of the Gutenberg Bible. *Nuclear Instruments and Methods*. B3:689-694 (1984).
- 84-6 Bauman, S., P.D. Houmère, J.W. Nelson, R.A. Eldred, and T.A. Cahill. PIXE analysis of intermediate and thick targets via line intensity ratios. *Nuclear Instruments and Methods*. B3:203-205 (1984).
- 84-7 Ashbaugh, L., Myrup, L., Flocchini, R. Surface layer transport of sulfate particles in the western U.S. by the large-scale wind field. *Monthly Weather Review*. 112.5:1067-1073 (1984).
- 84-8 Ashbaugh, L., Myrup, L., Flocchini, R. A principal component analysis of sulfur concentrations in the western United States. *Atmospheric Environment*. 18:783-791 (1984).
- 84-9 Cahill, T.A., B.H. Kusko, R.A. Eldred, and R.N. Schwab. Gutenberg's inks and papers: Non-destructive compositional analyses by proton milliprobe. *Archaeometry*. 26.1:3-14 (1984).
- 84-10 Feeney, Patrick, Thomas Cahill, John Olivera, and Rick Guidara. Gravimetric determination of mass on lightly loaded membrane filters. *Journal of the Air Pollution Control Association*. 34:376-378 (1984).
- 84-11 Cahill, Thomas A. and Robert A. Eldred. Elemental composition of arctic particulate matter. *Geophysical Letters*. 11:413-416 (1984).
- 84-12 Ashbaugh, Lowell, L. An investigation of high sulfate episodes in the northern great plains. *Proceedings of the Air Pollution Control Association 77<sup>th</sup> Annual Meeting*. San Francisco, CA, June 24-29. Paper No. 84-107.3:1-23 (1984).
- 84-13 Barone, J.B., Roy F. Weston, L.O. Myrup, T.A. Cahill, and R.G. Flocchini. Dimensional analysis of the vertical distribution of aerosols by particle size and composition. *Proceedings of the Air Pollution Control Association 77th Annual Meeting*. San Francisco, CA, June 24-29. Paper No. 84-107.2:1-21 (1984).
- 84-15 Cahill, Thomas A. and Robert A. Eldred. Elemental composition of arctic particulate matter. *Proceedings of Air Pollution Control Association 77th Annual Meeting*. San Francisco, CA, June 24-29. Paper No. 84-107.6:1-12 (1984).

- 84-14 Bresch, J., Henmi, T., Reiter, E., Ashbaugh, L., Comparison of a single-layer and a multilayer transport model for residence time analysis. *Proceedings of Air Pollution Control Association 77<sup>th</sup> Annual Meeting*. San Francisco, Ca, June 24-19. Paper No. 84-107.3:1-23 (1984).
- 84-15 Cahill, T., Eldred, R. Elemental composition of arctic particulate matter. *Proceedings of Air Pollution Control Association 77<sup>th</sup> Annual Meeting*. San Francisco, CA, June 24-29. Paper No. 84-107.6:1-12 (1984).
- 84-16 Howard, S., T.A. Cahill, N. Herz, C. Higgins, E. Kinmonth, and B.H. Kusko. Computer-assisted accelerator-based methods of determining the provenance of ancient marbles. Symposium for Archaeometry. Pisa, Italy, September 24-27. *Automatic Processing of Art History Data and Documents*. Laura Corti, Editor. Regione Toscana Publishers, Vol. 2, Pp. 258-271, 358-359 (1984).
- 83-1 Eldred, Robert A., Lowell L. Ashbaugh, Thomas A. Cahill, Robert G. Flocchini, and Marc L. Pitchford. Sulfate levels in the Southwest during the 1980 copper smelter strike. *Journal of the Air Pollution Control Association*. 33:110-113 (1983).
- 83-2 Eldred, Robert A. External beam PIXE programs at the University of California, Davis. Invited paper and abstract for 7<sup>th</sup> Conference on the Application of Accelerators in Research and Industry, North Texas University, Denton, TX. *IEEE Transaction on Nuclear Science*. NS-30:1276-1279 (1983).
- 83-3 Schwab, Richard N., Thomas A. Cahill, Bruce Kusko, and Dan Wick. Cyclotron analysis of the ink in the 42-line bible. *Papers of the Bibliographical Society of America*. 77.3:285-315 (1983).
- 83-4 Ashbaugh, Lowell, L. A statistical trajectory technique for determining air pollution source regions. *Journal of the Air Pollution Control Association*. 33:1096-1098 (1983).
- 82-1 Cahill, Thomas A. and Robert G. Flocchini. Exchange of comments on inaccuracies encountered in sulfur determination by particle induced x-ray emission. *Analytical Chemistry*. 54:1874-1876 (1982).
- 82-2 Pitchford, Marc. The relationship of regional visibility to coarse and fine particle concentration in the Southwest. *Journal of the Air Pollution Control Association* (1982)
- 82-3 Cahill, T.A. and D.A. Braaten. Size characteristics of Asian dust sampled at Mauna Loa Observatory. *Geophysical Monitoring for Climatic Change*. J. Harris and B. Bodhaine, Editors. Summary Report No. 11 (1982).
- 82-4 Mingxing, Wang, John W. Winchester, Thomas A. Cahill, and Ren Lixin. Chemical elemental composition of wind blown dust, April 19, 1980, Beijing. *Kexue Tongbao Science Bulletin*. Pp. 51-54 (1981).

- 81-1 Flocchini, R.G., T.A. Cahill, Marc L. Pitchford, R.A. Eldred, P.J. Feeney, and L.L. Ashbaugh. Characterization of particles in the arid West. *Atmospheric Environment*. 15:2017-2030 (1981).
- 81-2 Cahill, T.A., L.L. Ashbaugh, R.A. Eldred, P.J. Feeney, B.H. Kusko, and R.G. Flocchini. Comparisons between size-segregated resuspended soil samples and ambient aerosols in the western United States. *Atmospheric Aerosol: Source/Air Quality Relationships*. E. Macias, Editor. No. 15:270-285. American Chemical Society Symposium Series, No. 167 (1981).
- 81-3 Cahill, Thomas A. Innovative aerosol sampling devices based upon PIXE capabilities. *Nuclear Instruments and Methods*. 181:473-480 (1981).
- 81-4 Cahill, Thomas A. Ion beam analysis of environmental samples. Symposium on Recent Developments in Biological and Chemical Research with Short Lived Radioisotopes. American Chemical Society Meeting. Honolulu, Hawaii, 1979. *Short-Lived Radionuclides in Chemistry and Biology*. John W. Root and Kenneth A. Krahn, Editors. No. 27:511-522. Advances in Chemistry Series, No. 197 (1981).
- 81-5 Hill, M.W., L.D. Hansen, N.F. Mangelson, K.J. Faucette, D.J. Eatough, T.A. Cahill, and B. Kusko. Measurement of sample temperatures reached during proton and alpha particle irradiation of thin PIXE targets. *Nuclear Instruments and Methods*. 181:69-70 (1981).
- 81-6 Leifer, R., L. Hinchliffe, I. Fisenne, H. Franklin, E. Knutson, M. Olden, W. Sedlacek, E. Mroz, T. Cahill. Measurements of the stratospheric plume from the Mount St. Helens eruption: Radioactivity and chemical composition. *Science*. 214:904-907 (1981).
- 81-7 Cahill, T.A., B.H. Kusko, L.L. Ashbaugh, J.B. Barone, R.A. Eldred, and E.G. Walther. Regional and local determinations of particulate matter and visibility in the southwestern United States during June and July, 1979. Symposium on Plumes and Visibility. Grand Canyon, AZ, 1980. *Atmospheric Environment*. 15:2011-2016 (1981).
- 81-8 Pitchford, A., Pitchford, M., Malm, W., Flocchini, R., Cahill, T., Walther, E. Regional analysis of factors affecting visual air quality. Symposium on Plumes and Visibility. Grand Canyon, AZ, 1980. *Atmospheric Environment*. 15:2043-2054 (1981).
- 81-9 Macias, E.S., J.O. Zwicker, J.R. Ouimette, S.V. Hering, S.K. Friedlander, T.A. Cahill, G.A. Kuhlmeier, and L.W. Richards. Regional haze in the southwestern US, II: Source Composition. Symposium on Plumes and Visibility. Grand Canyon, AZ, 1980. *Atmospheric Environment*. 15:1971-1986 (1981).
- 81-10 Flocchini, R., Cahill, T., Ashbaugh, L., Eldred, R., Feeney, P., Shadoan, D. Regional scale synoptic air monitoring for visibility evaluation based on PIXE analyses. *Nuclear Instruments and Methods*. 181:407-410 (1981).

- 81-11 Flocchini, Robert G., Thomas A. Cahill, Lowell L. Ashbaugh, Robert A. Eldred, and Marc Pitchford. Seasonal behavior of particulate matter at three rural Utah sites. *Atmospheric Environment*. 15:315-320 (1981).
- 81-12 Pitchford, Marc, Robert G. Flocchini, Ronald G. Draftz, Thomas A. Cahill, Lowell L. Ashbaugh, and Robert A. Eldred. Silicon in submicron particles in the Southwest. *Atmospheric Environment*. 15:321-333 (1981).
- 81-13 Cahill, T.A. Size-chemical profiles of environmental samples by PIXE. *Proceedings of the American Nuclear Society Meeting*. San Francisco, CA. IEEE Series: Terrestrial and Extraterrestrial Radiation II. Pp. 71-73 (1981).
- 81-14 Cahill, T.A., B. Kusko, and R.N. Schwab. Analyses of inks and papers in historical documents through external beam PIXE techniques. *Nuclear Instruments and Methods*. 181:205-208 (1981).
- 81-15 Barone, J.B., L.L. Ashbaugh, B.H. Kusko, and T.A. Cahill. The effect of Owens Dry Lake on air quality in the Owens Valley with implications for the Mono Lake area. *Atmospheric Aerosol: Source/Air Quality Relationships*. P. Radke, Editor. No. 18:327-346. ACS Symposium Series, No. 167 (1981).
- 81-16 Cahill, Thomas A., Lowell L. Ashbaugh, and Bruce Kusko. Size-elemental profiles of fine particulate matter at Mauna Loa and Hilo, Hawaii. *Geophysical Monitoring for Climatic Change*. J.J. DeLuisi, Editor. Summary Report No. 9, December, P. 103 (1981).
- 80-1 Simoneit, Bernd R.T., M.A. Mazurek, and T.A. Cahill. Contamination of the Lake Tahoe air basin by high molecular weight petroleum residues. *Journal of the Air Pollution Control Association*. 30:387-390 (1980).
- 80-2 Engelbrecht, D.R., T.A. Cahill, and P.J. Feeney. Electrostatic effects on gravimetric analysis of membrane filters. *Journal of the Air Pollution Control Association*. 30:391-392 (1980).
- 80-3 Cahill, T.A., J. Barone, R.A. Eldred, R.G. Flocchini, D.J. Shadoan, and T.M. Dietz. Influence of sulfur size distribution on optical extinction. *Environmental and Climatic Impact of Coal Utilization*. J.J. Singh and A. Deepak, Editors. Academic Press, Pp. 213-244 (1980).
- 80-4 Cahill, T.A. Proton microprobes and particle-induced x-ray analytical systems. *Annual Reviews Nuclear and Particle Science*. 30:211-252 (1980).
- 80-5 Cahill, T.A. and L.L. Ashbaugh. Size/composition profiles of resuspended fly ash. *Environmental and Climatic Impact of Coal Utilization*. J.J. Singh and A. Deepak, Editors. Academic Press, Pp. 569-573 (1980).

- 80-6 Shadoan, D.J., J.B. Barone, and T.A. Cahill. Above ground aerosol characterization utilizing PIXE analysis and airborne samplers. 2nd International Conference on Particle Induced X-Ray Emission and Its Analytical Applications. Lund, Sweden. *Nuclear Instruments and Methods*. 181:503-508 (1980).
- 79-1 Cahill, Thomas A. Effect of carbonaceous particles on visibility. *Proceedings of Conference on Carbonaceous Particles in the Atmosphere*. Berkeley, CA, March 20-22, 1978. T. Novakov, Editor. Pp. 263-264 (1979).
- 79-2 Cahill, Thomas A. Comments on surface coatings for lundgren-type impactors. *Aerosol Measurement*. Dale A. Lundgren, Editor. University Presses of Florida, Pp. 131-134 (1979).
- 79-3 Lyons, C.E., I. Tombach, R.A. Eldred, and J.E. Core. Relating particulate matter sources and impacts in the Willamette Valley during field and slash burning. *Proceedings of the 72nd Annual Meeting of the Air Pollution Control Association*. Cincinnati, OH, June 25-30. Paper No. 79-46.3.1:2-16 (1979).
- 78-1 Barone, J.B., T.A. Cahill, R.A. Eldred, R.G. Flocchini, D.J. Shadoan, and T.M. Dietz. A multivariate statistical analysis of visibility degradation at four California cities. *Atmospheric Environment*. 12:2213-2221 (1978).
- 78-2 Eldred, Robert A., Thomas A. Cahill, and Robert G. Flocchini. Bromine loss from automotive particulates at California sites. *Proceedings of the 71st Annual Meeting of the Air Pollution Control Association*. June 25-30. Paper No. 78-69.6:2-15 (1978).
- 78-3 Wesolowski, J.J., W. John, W. Devor, T.A. Cahill, P.J. Feeney, G. Wolfe, R. Flocchini. Collection surfaces of cascade impactors. In *X-ray fluorescence analysis of environmental samples*. Dzubay, T., Editor. Ann Arbor Science, Pp. 121-130 (1978).
- 78-4 Courtney, W.J., S. Rheingrover, J. Pilotte, H.C. Kaufmann, T.A. Cahill, J.W. Nelson. Continuous observation of particulates during the general motors sulfate dispersion experiment. *Journal of the Air Pollution Control Association*. 28:225-228 (1978).
- 78-5 Cahill, Thomas A. Results of highway particulate investigations in California. *Proceedings Federal Highway Administration Symposium on Environmental Impacts of Highway Transportation*. Charlottesville, VA. (1978).
- 78-6 Cahill, Thomas A. Sensitivity, quality assurance, and cost in automated analysis via ion-induced x-rays. *Nuclear Instruments and Methods*. 149:431-433 (1978).
- 78-7 Cahill, T.A., L.L. Ashbaugh, J.B. Barone, and P.J. Feeney. Spatial distribution of primary automotive pollutants at Lake Tahoe. *Proceedings of Conference on Sierra Nevada Meteorology*. South Lake Tahoe, CA, June 19-21. Pp. 29-33 (1978).

- 78-8 Flocchini, Robert G., Thomas A. Cahill, Robert A. Eldred, Lowell L. Ashbaugh, and John B. Barone. Sulfur size distribution by season and site in California. *Proceedings of the 71st Annual Meeting of the Air Pollution Control Association*. Houston, TX, June 25-30. Paper No. 78-39.6:3-15 (1978).
- 77-1 Cahill, Thomas A., Lowell L. Ashbaugh, John B. Barone, Robert A. Eldred, Patrick J. Feeney, Robert G. Flocchini, Charles Goodart, Danny J. Shadoan, and Gordon W. Wolfe. Analysis of respirable fractions in atmospheric particulates via sequential filtration. *Journal of the Air Pollution Control Association*. 27:675-678 (1977).
- 77-2 Cahill, Thomas A. Automated analyses of environmental samples. *Nuclear Instruments and Methods*. 142:1-3 (1977).
- 77-3 Cahill, Thomas A. and Robert G. Flocchini. California's chemically active aerosols. *California Air Environment*. 6:5-7 (1977).
- 77-4 Cahill, Thomas A. X-ray analysis of environmental pollutants. *Environmental Pollutants*. T.Y. Toribara et al., Editors. Plenum Press, Pp. 457-463 (1977).
- 77-5 Cahill, Thomas A., Robert G. Flocchini, Robert A. Eldred, and John Barone. Statistical techniques for handling PIXE data. *Nuclear Instruments and Methods*. 142:259-261 (1977).
- 77-6 Cahill, T.A., R.G. Flocchini, J.W. Nelson, N.R. Fletcher, H.C. Kaufmann, and L.R. Medsker. The use of PIXE in generating evidence for primordial superheavy elements. *Nuclear Instruments and Methods*. Pp. 573-575 (1977).
- 76-1 Cahill, T.A., R. Flocchini, R. Eldred, D. Shadoan, G. Wolfe. Accelerator-based analyses of primary and secondary atmospheric particulates. *Proceedings of International Atomic Energy Association Meeting*. Vienna, Austria, March 15-19 (1976)
- 76-2 Flocchini, Robert G. and Thomas A. Cahill. Geothermal aerosols. Abstract for Geothermal Environmental Seminar-'76. Sonoma County, CA (1976).
- 76-3 Flocchini, Robert G., Thomas A. Cahill, Danny J. Shadoan, Sandra J. Lange, Robert A. Eldred, Patrick J. Feeney, Gordon W. Wolfe, Dean C. Simmeroth, and Jack K. Suder. **Monitoring California's aerosols by size and elemental composition.** *Environmental Science and Technology*. 10:76-82 (1976).
- 76-4 Cahill, T.A., R.G. Flocchini, R.A. Eldred, P.J. Feeney, S. Lange, D. Shadoan, and G. Wolfe. Monitoring of smog aerosols with elemental analysis by accelerator beams. *Proceedings of the 17th Materials Research Symposium*. Gaithersburg, MD, October 7-11, 1974. National Bureau of Standards Special Publication, 422:1119-1136 (1976).

- 76-5 Cahill, T.A. Regional monitoring of smog aerosols. *Proceedings of the ERDA Symposium on X- and Gamma-Ray Sources and Applications*. Ann Arbor, MI. Pp. 159-169 (1976).
- 76-6 Cahill, T.A., J. Barone, R.A. Eldred, and R.G. Flocchini. Statistical analysis of x-ray data. *Proceedings of the Fourth Conference on the Application of Small Accelerators*. Denton, TX, October 25-27 (1976).
- 75-1 Goldman, Charles R. and Thomas A. Cahill. Danger signs for Tahoe's future. *Cry California: The Journal of California Tomorrow*. 10:30-35 (1975).
- 75-2 Feeney, P.J., T.A. Cahill, R.G. Flocchini, R.A. Eldred, D.J. Shadoan, and T. Dunn. Effect of roadbed configuration on traffic derived aerosols. *Journal of the Air Pollution Control Association*. 25:1145-1147 (1975).
- 75-3 Ensor, D.S, T.A. Cahill, and L.E. Sparks. Elemental analysis of fly ash from combustion of a low sulfur coal. *Proceedings of the 68th Annual Meeting-Air Pollution Control Association*. Boston, MA. Paper No. 75-33.7:1-18 (1975).
- 75-4 Murray, Sylvia A., T.A. Cahill, K.N. Paulson, and A.R. Spurr. In situ multielement analysis by a-particle induced x-ray fluorescence in saline-treated bush bean. *Communications: Soil Science and Plant Analysis*. 6:33-37 (1975).
- 75-5 Cahill, Thomas A. Ion-excited x-ray analysis of environmental samples. Chapter 1 of *New uses for ion accelerators*. James Ziegler, Editor. Plenum Press, Pp. 1-72 (1975).
- 74-1 Cahill, Thomas A. Air quality in the Lake Tahoe basin. *Proceedings of the Lake Tahoe Research Seminar, II*. South Lake Tahoe, CA, September 27. Pp. 63-68 (1974).
- 74-2 Harrison, J., Eldred, R. Automatic data acquisition and reduction for elemental analysis of aerosol samples. *Advances in X-Ray Analysis*. 17:560-583 (1974).
- 74-3 Cahill, T.A., R.G. Flocchini, P.J. Feeney, and D.J. Shadoan. Comparison of equal-velocity ion beams for elemental analysis by ion-excited x-ray emission. *Nuclear Instruments and Methods*. 120:193-195 (1974).
- 74-4 Azevedo, J., R.G. Flocchini, T.A. Cahill, and P.R. Stout. Elemental composition of particulates near a beef cattle feedlot. *Journal of Environmental Quality*. 3:171-174 (1974).
- 74-5 Cahill, T.A., R.G. Flocchini, R.A. Eldred, P.J. Feeney, S. Lange, D. Shadoan, and G. Wolfe. Use of ion beams for monitoring California's aerosols. *Proceedings of the 2nd Annual NSF-RANN Trace Contaminants Conference*. Asilomar, Pacific Grove, CA. Paper No. LBL-3217:133-134 (1974).
- 73-1 Wyrick, Roger K. and Thomas A. Cahill.  $L_{\alpha}$  x-ray intensity ratios of U, Th, Pb, Ta, and Lu by a-particle-induced emission. *Physical Review*. A8:2288-2291 (1973).

- 73-2 Thibeau, H., J. Stadel, W. Cline, and T.A. Cahill. On-demand beam pulsing for an accelerator. *Nuclear Instruments and Methods*. 111:615-617 (1973).
- 72-1. Cahill, T.A., R. Sommerville, and R. Flocchini. Elemental analysis of smog by charged particle beams: Elastic scattering and x-ray fluorescence. American Nuclear Society Conference. Columbia, MO, August 1971. *Nuclear Methods in Environmental Research*. Pp. 26-29 (1972).
- 72-2 Flocchini, R.G., P.J. Feeney, R.J. Sommerville, and T.A. Cahill. Sensitivity versus target backings for elemental analysis by alpha excited x-ray emission. *Nuclear Instruments and Methods*. 100:397-402 (1972).