
BLOQUE IV

BIBLIOGRAFÍA Y GLOSARIO

BIBLIOGRAFÍA

BIBLIOGRAFÍA

- Adams P.J., Seinfeld J.H., Koch D.M., 1999. Global concentrations of tropospheric sulphate, nitrate, and ammonium aerosol simulated in a general circulation model. *Journal of Geophysical Research* 104, 13791-13823.
- Adedokun J.A., Emofurieta W.O., Adedeji O.A., 1989. Physical, chemical and mineralogical properties of harmattan dust at Ile-Ife, Nigeria. *Theoretical and Applied Climatology* 40, 161-169.
- Aitken J., 1880. On dust, fogs and clouds. *Trans. Roy. Soc. Edinburgh* 30, 337-368.
- Alastuey A., 1994. Caracterización mineralógica y alterológica de morteros de revestimiento en edificios de Barcelona. Tesis Doctoral, Facultad de Geología, Universitat de Barcelona.
- Alastuey A., Mantilla E., Querol X. and Rodríguez S., 2000. Study and evaluation of atmospheric pollution in Spain: Necessary measures arising from the EC Directive on PM₁₀ and PM_{2.5} in the ceramic industry. *Boletín de la Sociedad Española de Cerámica y Vidrio* 39, 1, 141-148.
- Alfaro S.C., Gaudichet A., Gomes L., Maillé M., 1998. Mineral aerosol production by wind erosion: Aerosol particle sizes and binding energies. *Geophysical Research Letters* 25, 991-994.
- Allegrini I., Febo A., Pasini A., Schiarini S., 1994. Monitoring of the nocturnal mixed layer by means of particulate radon progeny measurement. *Journal of Geophysical Research* 99, 18765-18777.
- Andreae M.O., 1986. The ocean as a source of atmospheric sulphur compounds. En: *The role of air-sea exchange in geochemical cycling* (ed. Buat-Ménard), pp 331-362. Reidel.
- Andreae M.O. y Crutzen P.J., 1997. Atmospheric aerosols: Biogeochemical sources and role in atmospheric chemistry. *Science* 276, 1052-1058.
- Arimoto R., 2001. Eolian dust and climate: relationships to sources, tropospheric chemistry, transport and deposition. *Earth-Science Reviews* 54, 29-42.
- Arslan F., Arslan C, Çelik, M.S., 1999. Arsenic removal through the decrepitation of colemanite ores. *Powder Technology* 103, 260-264.
- Artaxo P., Gerab F., Yamasoe M.A., Martins J.V., 1994. Fine mode aerosol composition at three long-term atmospheric monitoring sites in the Amazon basin. *Journal of Geophysical Research* 99, 22857-22868.

- Artiñano B., Querol X., Salvador P., Rodríguez S., Alastuey A., 2001. Assessment of airborne particulate matter in Spain in response to the new EU-directive. *Atmospheric Environment* 35, 1001, S43-S53.
- Ávila A., 1996. Time trends in the precipitation chemistry at a mountain site in Northeastern Spain for the period 1983-1994. *Atmospheric environment*, 30, 1363-1373.
- Ávila A., Queralt I., Alarcón M., 1997. Mineralogical composition of African dust delivered by red rains over North-Eastern Spain. *Journal of Geophysical Research* 102, 21977-21996.
- Ávila A. y Alarcón M., 1999. Relationship between precipitation chemistry and meteorological situations at rural site in NE Spain. *Atmospheric environment*, 33, 1663-1677.
- Bang J., Flugsrud K., Holtskog S., Haakonsen G., Larsen S., Maldum K.O., Rypdal K., Skedsmo A., 1999. Emissions from Road Traffic in Norway – Method for estimation, input data and emission estimates. Norwegian Pollution Control Authority (SFT), SFT Report no. 99:04 (In Norwegian). Oslo.
- Barba A., Feliu C., García J., Ginés F., Sánchez E., Sanz V., Beltrán V., 2002. *Materias primas para la fabricación de soportes de baldosas cerámicas*. Castellón: Instituto de Tecnología Cerámica – AICE (2ª Ed.).
- Bascom R., Bromberg P.A., Costa D.A., Devlin R., Dockery D.W., Frampton M.W., Lambert W., Samet J.M., Speizer F.E. and Utell M., 1996. Health effects of outdoor air pollution. *American Journal of Respiratory and Critical Care Medicine* 153, 3-50.
- Battye W., Aneja V.P., Roelle P.A., 2003. Evaluation and improvement of ammonia emissions inventories. *Atmospheric Environment* 37 (27), 3873-3883.
- Becker S., Soukup J.M., Sioutas C., Cassee F.R., 2003. Response of human alveolar macrophages to ultrafine, fine, and coarse urban air pollution particles. *Experimental lung research*, 29: 29–44.
- Bergametti G., Dutot A.L., Buat-Menard P., Losno R. y Remoudaki E., 1989. Seasonal variability of the elemental composition of atmospheric aerosol particles over the NW Mediterranean. *Tellus* 41B, 353-361.
- BERG (Building Effects Review Group), 1989. *The effects of acid deposition on buildings and building materials*. UK Department of Environment.
- Blanchard D.C. y Syzdek L.D., 1982. Water-to-air transfer and enrichment of bacteria in drops from bursting bubbles. *Applied Environmental Microbiology* 43, 1001-1005.
- Blasco A., Escardino A., Busani G., Monfort E., Amorós J.L., Enrique J.E., Beltrán V., Negre P., 1992. *Tratamiento de Emisiones Gaseosas, Efluentes Líquidos y Residuos Sólidos de la Industria Cerámica*. Castellón: Instituto de Tecnología Cerámica- Asociación de Investigación de las Industrias Cerámicas.

- Bolle H.J. (editor), 2003. Mediterranean climate : Variability and Trends. Springer-Verlag. Berlin.
- Bou E., 2005. Alternativas al uso del circón como materia prima para preparar recubrimientos vidriados opacos, con el fin de reducir su consumo. Tesis doctoral. Universitat Jaume I.
- Brauer M., Avila-Casado C., Fortoul T.I., Vedal S., Stevens B., Churg A., 2001. Air pollution and retained particles in the lung. *Environmental Health Perspectives*, 109,1039-1043.
- Brunekreef B., Janssen N.A.H., Harssema H., Knappe M. and Vliet P.V., 1997. Air Pollution from truck traffic and lung function in children living near motorways. *Epidemiology* 8, 8.
- Brunekreef B. y Forsberg B., 2005. Epidemiological evidence of effects of coarse airborne particles on health. *European Respiratory Journal* 26 (2), 309-318.
- Busani G., Palmonari C., Timellini G., 1995. Piastrelle ceramiche e ambiente: emissioni gassose, acque, fanghi, rumore. Sassuolo: Edi.Cer.
- Campbell I.D., McDonald K., Flannigan M.D., Kringayark J., 1999. Long-distance transport of pollen into the Arctic. *Nature* 399, 29-30.
- Caquineau S., Gaudichet A., Gomes L., Magonthier M.C., Chatenet B., 1998. Saharan dust: Clay ratio as a relevant tracer to assess the origin of soil delivered aerosols. *Geophysical Research Letters* 25, 983-986.
- Carlson T.N. y Prospero J.M., 1972. The large scale movement of Saharan air outbreaks over the northern equatorial Atlantic. *Journal of Applied Meteorology* 11, 283-297.
- Carlson T.N. y Benjamin S.G., 1980. Radiative heating rates for Saharan dust. *Journal of Atmospheric Science* 37, 193-213.
- Castro L.M., 1997. Composição e origem dos poluentes particulados numa atmosfera costeira. Tesis Doctoral. Universidade de Aveiro.
- Charlson R.J., Langner J., Rodher H., Loevy C.B., Warren S., 1991. Perturbation of Northern Hemisphere radiative balance by anthropogenic sulphate aerosol. *Tellus* 43A, 152-163.
- Charlson R.J., Schwartz S.E., Hales J.M., Cees R.D., Coakley J.A., Hansen J.E., Hoffman D.J., 1992. Climate forcing by anthropogenic aerosols. *Science* 255, 423-430.
- Chiapello I., Bergametti G., Chatenet B., 1997. Origins of African dust transported over the north-eastern tropical Atlantic. *Journal of Geophysical Research* 102 (D12), 13701-13709.
- Chuang C.C., Penner J.E., Taylor K.E., Grossman A.S. y Walton J.J., 1997. An assessment of the radiative effects of anthropogenic sulfate. *Journal of Geophysical Research* 102, 3761-3778.

- Churg A. y Brauer M., 1997. Human lung parenchyma retains PM_{2.5}. *American Journal of Respiratory and Critical Care Medicine*, 155, 6, 2109-2111.
- Curtis C.E. y Johnson J.R., 1957. Properties of Thorium Oxide Ceramics. *Journal of the American Ceramic Society* 40 (2), 63-68.
- Dailey L.A., 2002. The effect of size fractionated particulate matter on human airway epithelial cells in vitro. Abstract 1754, SOT meeting Nashville, Tennessee.
- DCMA (Dry Color Manufacturers' Association), 1991. Classification and chemical description of the complex inorganic color pigments. 3rd ed. Alexandria: Dry Color Manufacturers' Association.
- Dick C.A., Singh P., Daniels M., Evansky P., Becker S., Gilmour M.I., 2003. Murine pulmonary inflammatory responses following instillation of size-fractionated ambient particulate matter. *Journal of toxicology and environmental health*, 66: 2193–2207.
- Dockery D.W., Pope C.A., Xu X., Spengler J.D., Ware J.H., Fay M., Ferris B.G. and Speizer F.E., 1993. An association between air pollution and mortality in six U.S. cities. *New England Journal of Medicine* 329, 753-1759.
- Dockery D. y Pope A., 1996. Epidemiology of acute health effects: Summary of time-series studies. En: *Particles in our air: Concentration and health effects* (ed. Spengler J.D., Wilson R.), pp. 123-147. Cambridge: Harvard University Press.
- Draxler R.R. y Rolph G.D., 2003. HYSPLIT (HYbrid Single-Particle Lagrangian Integrated Trajectory) Model access via NOAA ARL READY Website (<http://www.arl.noaa.gov/ready/hysplit4.html>), NOAA Air Resources Laboratory, Silver Spring, MD.
- Duce R.A., 1991. The atmospheric input of trace species to the world ocean. *Global Biogeochemical Cycles* 5, 193-259
- Duering I. y Lohmeyer A., 2003. Quantifizierung der PM₁₀-Emissionen durch Staubaufwirbelung und Abrieb von Straßen auf der Basis von vorhandenen Messdaten. <<http://www.lohmeyer.de>>.
- Dulac F., Tanré D., Bergametti G., Buat-Ménard P., Desbois M., Sutton, D., 1992. Assesment of African airborne dust mass over the Western Mediterranean sea using meteosat data. *Journal of Geophysical Research* 97, 2489-2506.
- Eastern R.C. y Peter L.K., 1994. Binary homogeneous nucleation: temperature and relative humidity fluctuations, nonlinearity, and aspects of new particles production in the atmosphere. *Journal of Applied Meteorology*, 33, 775-784.
- Eatough D.J., Eatough D.A., Lewis L., Lewis E.A., 1996. Fine particulate chemical composition and light extinction at Canyonlands National Park using organic particulate material concentrations obtained with a multisystem, multichannel diffusion denuder sampler. *Journal of Geophysical Research* 101 (D14), 19515-19531.
- Emsley, 2003. *Nature's Building Blocks. An A-Z guide to the elements.* Oxford University Press.

- Enrique J.E. y Negre F., 1985. Tecnología Cerámica, Volumen V, Esmaltes cerámicos. Instituto de Tecnología Cerámica. Universidad de Valencia.
- EPA (Environmental Protection Agency), 1995. AP 42: Compilation of Air Pollutant Emission Factors. Volume 1: Stationary Point and Area Sources. 5th ed. <<http://www.epa.gov/ttn/chief/ap42/index.htm>>.
- EPA (Environmental Protection Agency), 1996. Air Quality Criteria for Particulate Matter. EPA. Vol. 1.
- Escudero M., Castillo S., Querol X., Ávila A., Alarcón M., Viana M.M., Alastuey A., Cuevas E., Rodríguez S., 2005. Wet and dry African dust episodes over Eastern Spain. *Journal of Geophysical Research* 110, D18S08, doi:10.1029/2004JD.
- Escudero M., Querol X., Pey J., Alastuey A., Ferreira F., Cuevas E., 2007. A methodology for the quantification of the net African dust load in air quality monitoring networks. *Atmospheric Environment*, en prensa. doi:10.1016/j.atmosenv.2007.04.047.
- Esteve y Peris, 2000. Ionic characterization of size fractionated airborne tropospheric particulate at Castellon (Spain). *Journal of Aerosol Science*, 31, Supplement 1, 346-347.
- European Commission, April 2004. Second Position Paper on Particulate Matter, 283 pp.
- Foltescu, V.L., Gidhagen, L. And Omstedt, G., 2001. Nomogram för uppskattning av halter av PM10 och NO2. SMHI Meteorologi Nr. 102, 34 pp.
- Fraser M.P., Buzcu B., Yue Z.W., McGaughney G.R., Desai N.R., Allen D.T., Seila R.L., Lonneman W.A., Harley R.A., 2003. Validation of source attribution of mobile source emissions of fine particles using organic molecular markers. *Proceedings de la European Aerosol Conference (EAC 2003)*, 911-913, Madrid.
- Gaffney J.S., Marley N.A., Cunningham M.M., Martello D.V. y Anderson N.J., 2002. Using natural ^{210}Pb and its daughters (^{210}Bi and ^{210}Po) to estimate aerosol residence times. *Proceedings de la NETL Conference "PM2.5 and electric power generation: recent findings and implications"*, Abril 9-10, 2002, Pittsburg, PA.
- Gangoiti G., Millán M.M., Salvador R., Mantilla E., 2001. Long-range transport and re-circulation of pollutants in the western Mediterranean during the project regional cycles of air pollution in the west-central Mediterranean area. *Atmospheric Environment* 35, 6267-6276.
- Gebhart K.A., Malm W.C., Day D., 1994. Examination of the effects of sulfate acidity and relative humidity on light scattering at Shenandoah National Park. *Atmospheric Environment* 28, 841-849.
- Gil V., Tartaj J., Moure C., Durán P., 2006. Sintering, microstructural development, and electrical properties of gadolinia-doped ceria electrolyte with bismuth oxide as a sintering aid. *Journal of the European Ceramic Society* 26, 3161-3171.

- Gillani N.V. y Wilson W.E., 1983. Gas-to-particle conversion of sulfur in power plant plumes - II. Observations of liquid-phase conversions. *Atmospheric Environment* 17, 1739-1752.
- Glaccum R.A. y Prospero J.M., 1980. Saharan aerosols over the tropical North-Atlantic - mineralogy. *Marine Geology* 37, 295-321.
- Goldschmidt V.M., 1954. *Geochemistry*. Edited by Alex Muir. Oxford Clarendon Press.
- Gómez E.T., Sanfeliu T., Rius J., Hernández D., 2001. Caracterización granulométrica y mineralógica de la materia particulada atmosférica en el área cerámica de Castellón. *Boletín de la Sociedad Española de Cerámica y Vidrio* 40 (3), 185-194.
- Gómez E.T., 2002. Aplicación de métodos cristalográficos (difracción de rayos X en polvo cristalino) y geoquímicas al estudio de la dinámica mineral en contaminantes atmosféricos particulados. Tesis doctoral. Universitat Jaume I.
- Graham W.F. y Duce R.A., 1979. Atmospheric pathways of the phosphorus cycle. *Geochemical Cosmo Acta* 43, 1195, 1208.
- Hansen A.D.A. y Rosen H., 1990. Individual measurements of the emission factor of aerosol black carbon in automobile plumes. *Journal of the Air and Waste Management Association* 40, 1654-1657.
- Harrison R.M. y Pio C., 1983. Size differentiated composition of inorganic aerosol of both marine and continental polluted origin. *Atmospheric Environment* 17, 1733-1738.
- Harrison R.M. y Kito A.M.N., 1990. Field intercomparison of filter pack and denuder sampling methods for reactive gaseous and particulate pollutants. *Atmospheric Environment* 24, 2633-2640.
- Harrison R.M., Smith D.J.T., Pio C.A., Castro L.M., 1997. Comparative receptor modelling study of airborne particulate pollutants in Birmingham (United Kingdom), Coimbra (Portugal) and Lahore (Pakistan). *Atmospheric Environment*, 31(20), 3309-3321.
- Harrison R.M., Tilling R., Callén Romero M.S., Harrad S., Jarvis K., 2003. A study of trace metals and polycyclic aromatic hydrocarbons in the roadside environment. *Atmospheric Environment* 37, 2391-2402.
- HEI (Health Effects Institute), 2000. Reanalysis of the Harvard Six Cities Study and the American Cancer Society Study of Particulate Air Pollution and Mortality. A Special Report of the Institute's Particle Epidemiology Reanalysis Project. Health Effects Institute.
- Heintzenberg J., 1985. What can we learn from aerosol measurements at baseline stations? *Journal of Atmospheric Chemistry* 3, 153-169.
- Henry R.C., Lewis C.W., Hopke P.K., Williamson H.J., 1984. Review of receptor models fundamentals. *Atmospheric Environment* 18, 8, 1507-1515.

- Herman J. R., Bhartia P.K., Torres O., Hsu C., Seftor C., Celarier E., 1997. Global distribution of UV-absorbing aerosols from Nimbus 7/TOMS data. *Journal of Geophysical Research* 102, 16911-16922.
- Hidy G.M., 1994. Atmospheric sulphur and nitrogen oxides. Academic Press, San Diego, California.
- Hitchins J., Morawsaka L., Wolff R., Gilbert D., 2000. Concentrations of submicrometre particles from vehicle emissions near a major road. *Atmospheric Environment*, 34, 51-59.
- Hoek G., Brunekreef B., Goldbohm S., Fischer P. and Brandt P.A.v.d., 2002. Association between mortality and indicators of traffic-related air pollution in the Netherlands: a cohort study. *The Lancet* 360 (9341), 1203-1209.
- Horvath H., 1992. Effect on visibility, weather and climate. Atmospheric acidity. Sources, consequences and abatement. M. Radojevic and R.M. Harrison (eds.) 435-466. Elsevier Applied Science. London and New York.
- IPCC, 1996. Climate change. The science of climate change. Meira Filho LG Houghton JT, Callander BA, Harris N, Kattenberg A, Maskell K (Eds.). Cambridge University Press, pp 584.
- IPCC, 2001. Climate Change 2001: The Scientific Basis. IPCC. Cambridge University Press.
- IPTS. European Commission, 2001. Reference Document on Best Available Techniques in the Glass Manufacturing Industry. December 2001. 289 pp (<http://eippcb.jrc.es>).
- IPTS. European Commission, 2003. Reference Document on Best Available Techniques for Mineral Oil and Gas Refineries. February 2003. 518 pp <<http://eippcb.jrc.es>>.
- IPTS. European Commission, 2005. Reference document on Best Available Techniques for Large Combustion Plants. May 2005. 621 pp <<http://eippcb.jrc.es>>.
- IPTS. European Commission, 2006a. Reference Document on Best Available Techniques for the Production of Speciality Inorganic Chemicals. Final Draft April 2006. 348 pp <<http://eippcb.jrc.es>>.
- IPTS. European Commission, 2006b. Reference Document on Best Available Techniques on Emissions from Storage of bulk or dangerous materials. July 2006. 432 pp <<http://eippcb.jrc.es>>.
- IPTS, European Commission, 2006c. Reference Document on Best Available Techniques in the Ceramic Manufacturing Industry. December 2006. 230 pp <<http://eippcb.jrc.es>>.
- ITC (Instituto de Tecnología Cerámica), 2001. Curso de gestión medioambiental en la industria cerámica, del 18 al 20 de diciembre de 2001. Castellón: ITC, 2001.

- Jiang M., Marr L.C., Dunlea E.J., Herndon S.C., Jayne J.T., Kolb C.E., Knighton W.B., Rogers T.M., Zavala M., Molina L.T., Molina M.J., 2005. Vehicle fleet emissions of black carbon, polycyclic aromatic hydrocarbons, and other pollutants measured by a mobile laboratory in Mexico City. *Atmospheric Chemistry and Physics* 5, 3377-3387.
- Johansson C., 2002. Source contributions of PM in Sweden – implications for abatement strategies. Institute of Applied Environmental Research (ITM). Stockholm. Presentation at 'Particles in the size of 2.5 to 10 microns in urban areas' workshop, in support of the Clean Air for Europe (CAFE) programme of DG ENV in Berlin, Germany, November 4-6, 2002.
- John A.C., Kuhlbusch T.A.J., Lutz M., 2003. Effects of traffic reduction measures on PM10 mass concentration and chemical composition in Berlin, Germany. *Proceedings de la European Aerosol Conference (EAC 2003)*, 31 Agosto- 5 Septiembre, Madrid.
- Junge C.E., 1963. *Air Chemistry and Radioactivity*. Academic Press.
- Kallos G., Kotroni V. and Lagouvardos K., 1997. The regional weather forecasting system SKIRON: an overview, in *Symposium on regional weather prediction on parallel computer environments*, pp. 109-122, University of Athens, Greece.
- Karagölge Z., Alkan M., Dönmez B., 2002. Removal of Arsenic from Colemanite Ore Containing Arsenic by Froth Flotation. *Journal of Chemical Engineering of Japan* 35, 3, 217–225.
- Keeler G.J., Japar S.M., Brachaczek W.W., Gorse R.A.J., Norbeck J.M. y Pierson W.R., 1990. The sources of aerosol elemental carbon at Allegheny Mountain. *Atmospheric Environment* 24 Part A, 2795-2805.
- Keppler H., 1999. Experimental evidence for the source of excess sulfur in explosive volcanic eruptions. *Science* 284, 1652-1654.
- Kim E. y Hopke P.K., 2003. Source identification of Washington DC aerosol using temperature resolved carbon fractions in positive matrix factorization. *Proceedings de la European Aerosol Conference (EAC 2003)*, 911-913, Madrid.
- Kulmala M., Maso M.D., Makela J.M., Pirjola L., Vakeva M., Aalto P., Miikkulainen P., Hameri K. y O'Dowd C., 2001. On the formation, growth and composition of nucleation mode particles. *Tellus* 53 B, 479-490.
- Kulmala M., Vehkamäki H., Petäjä T., Dal Maso M., Lauri A, Kerminen V.M., Birmili W., McMurry P.H., 2004. Formation and growth rates of ultrafine atmospheric particles: a review of observations. *Journal of Aerosol Science* 35, 143-176.
- Künzli N., Kaiser R., Medina S., Studnicka M., Chanel O., Filliger P., Herry M., Horak F. Jr, Puybonnieux-Texier V., Quenel P., Schneider J., Seethaler R., Vergnaud J.C., Sommer H., 2000. Public-health impact of outdoor and traffic related air pollution: a European assessment. *The Lancet* 356, 795-801.
- Laurenzi Tabasso M. y Marabelli M., 1992. Il degrado dei monumento in Roma in rapporto all'inquinamento atmosferico. *Betagama*. Viterbo, 169.

- Langner J. y Rodhe H., 1992. A global three-dimensional model of the tropospheric sulphate. *Journal of Atmospheric Chemistry* 13, 225-263.
- Leck C. y Persson C., 1996. Seasonal and short-term variability in dimethyl sulfide, sulfur dioxide and biogenic sulfur and sea salt aerosol particles in the arctic marine boundary layer during summer and autumn. *Tellus* 48B, 172-299.
- Leopold J.G., Gough J., 1957. The centrilobular form of hypertrophic emphysema and its relation to chronic bronchitis. *Thorax*, 12 (3): 219-235.
- Li N., Kim S., Wang M., Froines J., Sioutas C., Nel A., 2002. Use of a stratified oxidative stress model to study the biological effects of ambient concentrated and diesel exhaust particulate matter. *Inhalation toxicology*, 14 (5), 459-486.
- Lipfert F.W., Perry H.M. Jr, Miller J.P., Baty J.D., Wyzga R.E., Carmody S.E., 2000. The Washington University-EPRI Veterans' Cohort Mortality Study: preliminary results. *Inhalation Toxicology* 12 (suppl. 4): 41-73.
- Mallol G., Monfort E., Busani G., Lezaun F.J., 2001. Depuración de los gases de combustión en la industria cerámica. *Guías Técnicas de energía y medio ambiente*. Castellón: Fundación Gas Natural. Instituto de Tecnología Cerámica, 1ª Edición 1998, 2ª Edición 2001.
- Manson B.J., 1992. *Acid rain - Its causes and its effects on inland waters*. Clarendon press, Oxford.
- Mårtensson E.M., Nilsson E.D., Leeuw G.d., Cohen L.H., Hansson H.C., 2002. Laboratory simulations and parametrization of the primary marine aerosol production. *Journal of Geophysical Research*, accepted for publication.
- Marticorena B., Bergametti G., Aumont B., 1997. Modeling the atmospheric dust cycle 2. Simulation of Saharan dust sources. *Journal of Geophysical Research* 102, 4387-4404.
- Martín M., Plaza J., Andrés M.D., Bezares J.C., Millán M.M., 1991. Comparative Study of Seasonal Air Pollutant Behavior in a Mediterranean Coastal Site: Castellón (Spain). *Atmospheric Environment*, Vol 25A, 8, 1523-1535.
- Masó N., Beltrán H., Muñoz R., Julián B., Carda J.B., Escribano P., Cordoncillo E., 2003. Optimization of Praseodymium-Doped Cerium Pigment Synthesis Temperature. *Journal of the American Ceramic Society* 86, 3, 425-430.
- Matter U., Siegmann H.C., Burtcher H., 1999. Dynamic field measurements of submicron particles from diesel engines. *Environmental Science and Technology* 33, 1946-1952.
- Matthes, W.E., 1990. *Vidriados cerámicos*. Ediciones Omega S.A.
- Mazzacani P. Y Biffi G., 1997. *Handbook for the technician of ceramics production*. Faenza Editrice Ibérica. Italia, 1997.
- McClain, C.R., Cleave M.L., Feldman G.C., Gregg W.W., Hooker S.B. and Kuring N., 1998. Science Quality SeaWiFS Data for Global Biosphere Research, *Sea technology* 39 (9), 10-15.

- McDowell W. H., Sánchez C.G., Asbury C.E., Pérez C.R.R., 1990. Influence of sea salt aerosols and long range transport on precipitation chemistry at El Verde, Puerto Rico. *Atmospheric Environment* 24, 2813-2821.
- Mestre S., 1997. Compuestos del sistema Fe_2O_3 - Cr_2O_3 , estudio cinético y colorimétrico. Tesis doctoral. Universitat Jaume I.
- Mészáros E., 1973. Evidence of the role of indirect photochemical processes in the formation of atmospheric sulfate particulate. *Journal of Aerosol Science* 4, 429-434.
- Mészáros A. y Vissy K., 1974. Concentration, size distribution and chemical nature of atmospheric aerosol particles in remote oceanic areas. *Journal of Aerosol Science* 5, 101-109.
- Mészáros E. y Horváth L., 1984. Concentration and dry deposition of atmospheric sulphur and nitrogen compounds in Hungary. *Atmospheric Environment* 18, 1725-1730.
- Mészáros E., 1993. *Global and Regional Changes in Atmospheric Composition*. Lewis Publications, Boca Raton.
- Mészáros E., 1999. *Fundamentals of Atmospheric Aerosol Chemistry*. Akadémiai Kiado.
- Meteorological Office, 1962. *Weather in the Mediterranean*, vol. 1, General Meteorology, p. 391, Air Ministry, Meteorological Office, Her Majesty's Stn. Off., London, U.K. Code No. 40-142-1-62.
- Mildford J.B. y Davidson C.I., 1987. The sizes of particulate sulphate and nitrate in the Atmosphere. A review. *Journal of Air Pollution Control Association* 37, 2, 125-134.
- Millán M.M., Artífano B., Alonso L.A., Castro M., Fernández-Patier R., Goberna J., 1992. Mesometeorological Cycles of Air Pollution in the Iberian Peninsula, (MECAPIP), Air Pollution Research Report 44, (EUR N° 14834), European Commission DG XII/E-1, Rue de la Loi, 200, B-1040, Brussels.
- Millán M.M., Salvador R., Mantilla E., 1997. *Photooxidant dynamics in the Mediterranean basin in summer: results from European research projects*. *Journal of Geophysical Research* 102 (D7), 8811-8823.
- Millán M.M., Mantilla E., Salvador R., Carratalá A., Sanz M.J., Alonso L., Gangoiti G., Navazo M., 2000. Ozone cycles in the Western Mediterranean basin: Interpretation of monitoring data in complex coastal terrain. *Journal of Applied Meteorology*, 39, 487-508.
- Millán M.M., 2002. Ozone dynamics in the Mediterranean basin. A collection of scientific papers resulting from the MECAPIP, RECAPMA and SECAP Projects. Air Pollution Research Report 78. Brussels.

- MMA (Ministerio de Medio Ambiente), 2002. Identificación de episodios de transporte a larga distancia de masas de aire con elevados niveles de partículas en suspensión en España. Dirección General de Calidad y Evaluación Ambiental. Informe, 321 pp.
- MMA (Ministerio de Medio Ambiente), 2003. Identificación de episodios de transporte a larga distancia de masas de aire con elevados niveles de partículas en suspensión en España. Dirección General de Calidad y Evaluación Ambiental. Informe, 120 pp.
- MMA (Ministerio de Medio Ambiente), 2004. Episodios naturales de partículas. Dirección General de Calidad y Evaluación Ambiental. Informe, 101 pp.
- MMA (Ministerio de Medio Ambiente), 2005. Episodios naturales de partículas. Dirección General de Calidad y Evaluación Ambiental. Informe, 103 pp.
- Molinarioli E., Gerzoni S., Giacarlo R., 1993. Contribution of Saharan dust to the Central Mediterranean Basin. En: Processes Controlling the Composition of the Clastic Sediments (eds: Jhonson N.J., Basu A.). Geological Society of America Special Paper 284, pp 303-312.
- Monfort E., Celades I., Mestre S., Sanz V., Querol X., 2004. Industrial PM_x data processing in ceramic tile manufacturing emissions. Key Engineering Materials. Vols. 264-268, 2453-2456 (ISBN 0-87849-946-6).
- Monfort E., Celades I., Gomar S., Rueda F., Sanfelix V., Minguillón M.C., 2006a. Determinación de las fracciones PM_x/PST en emisiones canalizadas de la industria cerámica. Qualicer 2006. Castellón, 12-15 febrero 2006.
- Monfort E. Celades I., Gomar S., Sanfelix, V., 2006b. Control y estimación de emisiones difusas de material particulado en operaciones al aire libre. PROMA-X Congreso de Ingeniería Ambiental, Bilbao, 3-5 octubre 2006.
- Monfort E., Celades I., Gomar S., Sanfelix V., López J.L., Calpe V., 2006c. Estimación de emisiones difusas de material particulado y rendimiento de MTD's en el sector cerámico. XLVI Congreso Anual de la Sociedad Española de Cerámica y Vidrio, Vall d'Alba, 25-27 de octubre de 2006.
- Moreno A., 1994. Estudio de la formación de fases cristalinas en vidriados blancos de circonio: factores que influyen sobre su índice de blancura. Tesis doctoral. Universitat Jaume I de Castellón.
- Nicholson K., 2000. Resuspension from Roads: Initial Estimate of Emission Factors. Internal AEA Technology Report.
- Olmez I., Sheffield A.E., Gordon G.E., Houck J.E., Pritchett L.C., Cooper J.A., Dzubay T.G., Bennett R.L., 1988. Compositions of particles from selected sources in Philadelphia for receptor modeling applications. The International Journal of Air Pollution Control and Hazardous Waste Management 38, 1392-1402.
- Pacyna J.M., 1998. Source inventories for atmospheric trace metals. En: Atmospheric Particles (eds: Harrison R.M., Van Grieken R.E.). IUPAC Series on Analytical and Physical Chemistry of Environmental Systems 5, pp 387-423.

- Pakkanen T.A., Kerminen V.M., Korhonen C.H., Hillamo R.E., Aarnio P., Koskentalo T., Maenhaut W., 2001a. Urban and rural ultrafine (PM_{0.1}) particles in the Helsinki area. *Atmospheric Environment* 35, 4593-4607.
- Pakkanen T., Loukkola K., Korhonen C., Aurela M., Mäkelä T., Hillamo R., Aarnio P., Koskentalo T., Kousa, A., Maenhaut W., 2001b. Sources and chemical composition of atmospheric fine and coarse particles in the Helsinki area. *Atmospheric Environment* 35, 5381-5391.
- Palau Aloy J.L., 2003. *Dispersión atmosférica de las emisiones de una chimenea alta en terreno complejo*. Tesis doctoral. Universitat de València. Edita Fundació CEAM.
- Pallarés S., Vicente A.B., Jordán M.M., Sanfeliu T., 2007. Study of the Levels of Concentration of As, Cd and Ni in a Ceramic Cluster. *Water, Air, and Soil Pollution* 180, 51-64.
- Paquet H., Coudé-Gaussen G., Rognon P., 1984. Etude minéralogique de poussières sahariennes le long d'un itinéraire entre 19° et 35° de latitude nord. *Révue de Géologie Dynamique et de Géographie Physique* 25, 257-265.
- Parmelee C.W., 1973. *Ceramic glazes*. 3rd. ed. Boston: Cahners Books.
- Pekkanen J., Timonen K., Ruuskanen J., Reponen A., Mirme A., 1997. Effects of ultrafine and fine particles in urban air on peak expiratory flow among children with asthmatic symptoms. *Environmental Research* 74 (1): 24-33.
- Penner J.E., Charlson R.J., Hales J.M., Laulainen N., Leifer R., Novakov T., Ogren J., Radke L.F., Schwartz S.E., Travis L., 1994. Quantifying and minimizing uncertainty of climate forcing by anthropogenic aerosols. *Bulletin of the American Meteorological Society* 75, 375-400.
- Peters A., Wichmann H.E., Tuch T., Heinrich J., Heyder J., 1997. Respiratory effects are associated with the number of ultrafine particles. *American Journal of Respiratory and Critical Care Medicine*, 155 (4), 1376-1383.
- Pio C.A., Nunes T.V., Borrego C.S., Martins J.G., 1989. Assessment of air pollution sources in an industrial atmosphere using principal component and multilinear regression analysis. *The Science of The Total Environment*, 80, 2-3, 279-292.
- Pio C.A., Castro L.M., Cerqueira M.A., Santos I.M., Belchior F., Salgueiro M.L., 1996. Source assessment of particulate air pollutants measured at the Southwest European coast. *Atmospheric Environment* 30, 3309-3320.
- Pio C.A. y Lopes D.A., 1998. Chlorine loss from marine aerosol in a coastal atmosphere. *Journal of Geophysical Research* 103, 25263-25272.
- Pope C.A., Schwartz J., Ransom M.R., 1992. Daily mortality and PM₁₀ pollution in Utah Valley. *Arch. Environ. Health* 47: 211-217.
- Pope C.A., Burnett R.T., Thun M.J., Calle E.E., Krewski D., Ito K., Thurston G.D., 2002. Lung cancer, cardiopulmonary mortality, and long-term exposure to fine particulate air pollution. *JAMA* 287(9): 1132-1141.

- Pósfai M. y Molnár A., 2000. Aerosol particles in the troposphere: a mineralogical introduction. *Environmental Mineralogy*. David J. Vaughan & Roy A. Wogelius. pp. 434.
- Pozzi R., De Berardis B., Paoletti L., Guastadisegni C., 2003. Inflammatory mediators induced by coarse (PM_{2.5-10}) and fine (PM_{2.5}) urban air particles in RAW 264.7 cells. *Toxicology*, 183: 243–254.
- Pratsinis S.E., Zeldin M.D., Ellis E.C., 1988. Source contribution of the fine carbonaceous aerosol by principal component-stepwise regression analysis. *Environmental Science and Technology* 22, 212-216.
- Pregger T. and Friedrich, R., 2002. Emission Sources of PM₁₀ (Coarse and Fine Fraction) in Germany, Universität Stuttgart, Stuttgart. Presentation at 'Particles in the size of 2.5 to 10 microns in urban areas' workshop, in support of the Clean Air for Europe (CAFE) programme of DG ENV in Berlin, Germany, November 4-6, 2002. <<http://www.trumpf.fu-berlin.de/veranstaltungen/>>.
- Price C., Penner J., Prather M., 1997a. NO_x from lightning: 1. Global distribution based on lightning physics. *Journal of Geophysical Research* 102, 5929-5941.
- Price C., Penner J., Prather M., 1997b. NO_x from lightning: 2. Constraints from the global atmospheric electrical circuit. *Journal of Geophysical Research* 102, 5943-5951.
- Prospero J.M., 1999. Long range transport of mineral dust in the global atmosphere: impact of African dust on the environment of the south-eastern United States. *Proceedings of the National Academy of Science USA* 96, 3396-3403.
- Prospero J.M., Ginoux P., Torres O. y Nicholson S., 2002. Environmental characterization of global sources of atmospheric soil dust derived from the NIMBUS7 TOMS absorbing aerosol product. *Reviews of Geophysics* 40(1), 2-1:2-27.
- Putaud J.P., Van Dingenen R., Mangoni M., Virkkula A., Raes F., Maring H., Prospero J.M., Swietlicki E., Berg O.H., Hillamo R., Mäkelä T., 2000. Chemical mass closure and assessment of the origin of the submicron aerosol in the marine boundary layer and the free troposphere at Tenerife during ACE-2. *Tellus*, 52B, 141-168.
- Querol X., Alastuey A., López-Soler A., Mantilla E., Plana F., 1996. Mineralogy of atmospheric particulates around a large coal-fired power station. *Atmospheric Environment* 30 (21), 3557-3572.
- Querol X., Alastuey A., Puigercus J.A., Mantilla E., Ruiz C.R., López-Soler A., Plana F., Juan R., 1998a. Seasonal evolution of atmospheric suspended particles around a large coal-fired power station: Chemical Characterization. *Atmospheric Environment*, 32, 4, 719-731.

- Querol X., Alastuey A., Puigercus J.A., Mantilla E., Miró J.V., López-Soler A., Plana F., Artíñano B., 1998b. Seasonal evolution of atmospheric suspended particles around a large coal-fired power station: Particulate levels and sources. *Atmospheric Environment*, 32, 11, 1963-1978.
- Querol X., Alastuey A., Lopez-Soler A., Plana F., Mantilla E., Juan R., Ruiz C.R., Orden A.L., 1999. Characterisation of atmospheric particulates around a coal-fired power station. *International Journal of Coal Geology* 40 (2-3), 175-188.
- Querol X., Alastuey A., Rodríguez S., Plana F., Mantilla E., Ruiz C.R., 2001a. Monitoring of PM₁₀ and PM_{2.5} around primary particulate anthropogenic emission sources. *Atmospheric Environment* 35, 5, 845-858.
- Querol X., Alastuey A., Rodríguez S., Plana F., Ruiz C.R., Cots N., Massagué G., Puig O., 2001b. PM₁₀ and PM_{2.5} source apportionment in the Barcelona Metropolitan Area, Catalonia, Spain. *Atmospheric Environment* 35 (36), 6407-6419.
- Querol X., Alastuey A., Rodríguez S., Viana M.M., Artíñano B., Salvador P., Mantilla E., García Do Santos S., Fernandez Patier R., De La Rosa J., Sanchez De La Campa A., Menendez M., 2004a. Levels of PM in rural, urban and industrial sites in Spain. *Science of the Total Environment* 334-335, 359-376.
- Querol X., Alastuey A., Viana M.M., Rodríguez S., Artíñano B., Salvador P., Garcia Do Santos S., Fernandez Patier R., Ruiz C., De La Rosa J., Sanchez De La Campa A., Menendez M., Gil J.I., 2004b. Speciation and origin of PM₁₀ and PM_{2.5} in Spain. *Journal of Aerosol Science* 35, 1151-1172.
- Querol X., Alastuey A., Moreno T., Viana M.M., Castillo S., Pey J., Rodríguez S., Artíñano B., Salvador P., Sánchez M., Garcia Dos Santos S., Herce Garraleta M.D., Fernandez-Patier R., Moreno-Grau S., Minguillón M.C., Monfort E., Sanz M.J., Palomo-Marín R., Pinilla-Gil E., Cuevas E., 2007a. Spatial and temporal variations in airborne particulate matter (PM₁₀ and PM_{2.5}) across Spain 1999-2005. *Atmospheric Environment*, en prensa, doi: 10.1016/j.atmosenv.2006.10.071.
- Querol X., Viana M., Alastuey A., Amato F., Moreno T., Castillo S., Pey J., de la Rosa J., Artíñano B., Salvador P., García Dos Santos S., Fernández-Patier R., Moreno-Grau S., Negral L., Minguillón M.C., Monfort E., Gil J.I., Inza A., Ortega L.A., Santamaría J.M., Zabalza J., 2007b. Source origin of trace elements in PM from regional background, urban and industrial sites of Spain. *Atmospheric Environment*, en prensa.
- Reichholf J.H., 1986. Is the Saharan dust a major source of nutrients for the Amazonian rain forest? *Stud. Neotrop. Fauna Environ.*, 21, 251-255.
- Rincón J.M., Carda J.B., Alarcón J. (Eds.), 1992. *Nuevos Productos y Tecnologías de Esmaltes y Pigmentos Cerámicos*. Castellón: Faenza Editrice Ibérica S.L. Arganda del Rey: Sociedad Española de Cerámica y Vidrio.
- Rodríguez S., 2002. Sources and processes affecting levels and composition of atmospheric particulate matter in the Western Mediterranean. Tesis doctoral. Universitat Politècnica de Catalunya.

- Rodríguez S., Querol X., Alastuey A., Kallos G., Kakaliagou O., 2001. Saharan dust contributions to PM₁₀ and TSP levels in Southern and E. Spain. *Atmospheric Environment* 35, 2433-2447.
- Rodríguez S., Querol X., Alastuey A., Mantilla E., 2002. Origin of high summer PM₁₀ and TSP concentration at rural sites in Eastern Spain. *Atmospheric Environment* 36, 3101-3112.
- Rodríguez S., Querol X., Alastuey A., Viana M.M., Alarcón M., Mantilla E., Ruiz C.R., 2004. Comparative PM₁₀-PM_{2.5} source contribution study at rural, urban and industrial sites during PM episodes in Eastern Spain. *Science of the Total Environment* 328, 95-113.
- Roelle P.A., Aneja V.P., Gay B., Geron C., Pierce T., 2001. Biogenic nitric oxide emissions from cropland soils. *Atmospheric Environment* 35, 115-124.
- Rosenfeld D., 2000. Suppression of rain and snow by urban and industrial air pollution. *Science* 287, 1793-1796.
- Salvador R., Calbó J., Millán M.M., 1999. Horizontal grid size selection and its influence on mesoscale model simulations. *Journal of Applied Meteorology* 38, 1311-1329.
- Sarnthein D., Thiede J., Pflaumann U., Erlenkeuser H., Futterer D., Koopman B., Lange H., Seibold E., 1982. Atmospheric and Oceanic circulation patterns of Northwest Africa during the past 25 million years. En: *Geology of the Northwest African Continental Margin* (ed., U. von Rad, K. Hinz, M. Sarnthein y E. Seibold), 545-604.
- Schaap M., Spindler G., Schulz M., Acker K., Maenhaut W., Berner A., Wieprecht W., Streit N., Müller K., Brüggemann E., Chi X., Putaud J.P., Hitzemberger R., Puxbaum H., Baltensperger U., Brink H. ten, 2004. Artefacts in the sampling of nitrate studied in the "INTERCOMP" campaigns of EUROTRAC-AEROSOL. *Atmospheric Environment* 38, 6487-6496.
- Schütz L. y Seibert M., 1987. Mineral aerosols and source identification. *Journal of Aerosol Science* 18, 1-10.
- Schwartz J., 1993a. Particulate air pollution and chronic respiratory disease. *Environmental Research*, 62, 7-13.
- Schwartz J., 1993b. Air pollution and daily mortality in Birmingham, Alabama. *American Journal of Epidemiology* 137: 1136-1147.
- Schwartz J., 1994. What are people dying of on high air pollution days? *Environmental Research* 64, 26-35.
- Schwartz J., Dochery D.W., Neas L.M., 1996. Is daily mortality associated specifically with fine particles? *Journal of Air and Waste Management Association* 46, 927-939.

- Seidl W., Brunemann G., Kins E., Kölher E., Reusswig K., Ruoss K., Seiler T., Dlugi R., 1996. Nitrate in the accumulation mode; data from measurement campaigns in eastern Germany. En *Nucleation and Atmospheric Aerosols* (ed. M Kulmala and P E Wagner), pp. 431-434. Pergamon Press.
- Seinfeld J.H. y Pandis S.N., 1998. *Atmospheric Chemistry and Physics: From air pollution to climate change*. John Wiley & Sons, Inc., pp 1323.
- Sieburth J.M., 1982. Microbiological and organic-chemical processes in the surface and mixed layers. En *Air-sea exchange of gases and particles / NATO ASI Ser.*, Vol. C108 (ed. P S Liss & W G N Slinn), pp. 121-172. Reidel.
- Singer F. y Singer S.S., 1971. *Cerámica industrial*. Ediciones Urmo. Bilbao.
- Singh R.B. y Sloan J.J., 2006. A high-resolution NOx emission factor model for North American motor vehicles. *Atmospheric Environment* 40, 27, 5214-5223.
- Sloane C.S., Watson J., Chow J., Pritchett L., Richards L.W., 1991. Size-segregated fine particle measurements by chemical species and their impact on visibility impairment in Denver. *Atmospheric Environment* 25 (Part A), 1013-1024.
- Sokolik I.N. y Toon O.B., 1996. Direct radiative forcing by anthropogenic airborne mineral aerosols. *Nature* 381, 681-683.
- Soriano C., Baldasano J.M., Coutinho M., 1998. Seasonal variation of the atmospheric circulatory patterns in the Barcelona area: numerical simulation of typical wintertime and summertime situations. En: *Proceedings of the 2nd Urban Environment Symposium, 13th Conference on Biometeorology and Aerobiology*, American Meteorological Society, Albuquerque, New Mexico, US, pp 55- 58.
- Soriano C., Baldasano J.M., Buttler W.T., Moore K.R., 2001. Circulatory patterns of air pollutants within the Barcelona air basin in summertime situation: Lidar and numerical approaches. *Boundary-Layer Meteorology* 98, 33-35.
- Stefanov S. y Batschwarov S., 1988. *Ceramic glazes*. Bauverlag GmbH.
- Stelson A.W., Friedlander S.K., Seinfeld J.H., 1979. A note on the equilibrium relationship between ammonia and nitric acid and particulate ammonium nitrate. *Atmospheric Environment* 13, 369-371.
- Sternbeck J., Sjödin Á., Andréasson K., 2002. Metal emissions from road traffic and the influence of resuspension—results from two tunnel studies. *Atmospheric Environment* 36, 4735, 4744.
- Swap R., Garstang M., Greco S., Talbot R., Kallberg P., 1992. Saharan dust in the Amazon basin. *Tellus* 44B, 133-149.
- Taylor J.R. y Bull A.C., 1986. *Ceramics Glaze Technology*. Pergamon Press.
- Taylor K.E. y Penner J.E., 1994. Response of climate system to atmospheric aerosols and greenhouse gases. *Nature* 396, 734-737.
- Taylor S.R. y McLennan S.M., 1985. *The continental crust: its composition and evolution*. Blackwell, Oxford, 312 pp.

- Tecnología Cerámica Aplicada, 2004. Faenza Editrice Ibérica. Castellón de la Plana.
- Thurston G.D. y Spengler J.D., 1985. A quantitative assessment of source contribution to inhalable particulate matter pollution in Metropolitan Boston. *Atmospheric Environment* 19 (1), 9-25.
- TNO, 1997. Particulate Matter Emissions (PM₁₀, PM_{2.5}, PM_{<0.1}) in Europe in 1990 and 1993, TNO Report TNO-MEP-R96/472, Netherlands, February 1997.
- Toll I. y Baldasano J.M., 2000. Modelling of photochemical air pollution in the Barcelona area with highly disaggregated anthropogenic and biogenic emissions. *Atmospheric Environment* 34, 3069-3084.
- Tønnesen, D., 2000. Program documentation for VLUFT version 4.4. Norwegian Institute for Air Research (NILU). NILU report no. TR7/2000). (In Norwegian).
- Toon O.B., 2000. How pollution suppresses rain. *Science* 287, 1763-1765.
- Turpin B.J., Saxena P. y Andrews E., 2000. Measuring and simulating particulate organics in the atmosphere: problems and prospects. *Atmospheric Environment* 34, 2983-3013.
- Uexküll O. von, Skerfving S., Doyle R., Braungart M., 2005. Antimony in brake pads-a carcinogenic component? *Journal of Cleaner Production* 13, 19-31.
- US NRC (US National Research Council), 1991. Rethinking the ozone problem in urban and regional air pollution. National Academy Press, Washington, D.C.
- Van Dingenen R., Raes F., Putaud J.P., Baltensperger U., Charron A., Facchini M.C., Decesari S., Fuzzi S., Gehrig R., Hansson H.C., Harrison R.M., Hüglin C, Jones A.M., Laj P., Lorbeer G., Maenhaut W., Palmgren F., Querol X., Rodríguez S., Schneider J., Brink H., Tunved P., Tørseth K., Wehner B., Weingartner E., Wiedensohler A., Wåhlin P., 2004. A European aerosol phenomenology-1: physical characteristics of particulate matter at kerbside, urban, rural and background sites in Europe. *Atmospheric Environment*, 38, 2561-2577
- Viana M.M., 2003. Niveles, composición y origen del material particulado atmosférico en los sectores Norte y Este de la Península Ibérica y Canarias. Tesis doctoral. Universidad de Barcelona.
- Viana M.M., Querol X., Alastuey A., Gangoiti G., Menéndez M., 2003. PM levels in the Basque Country (Northern Spain): analysis of a 5-year data record and interpretation of seasonal variations. *Atmospheric Environment* 37, 2879-2891.
- Vickery W., Moreno A., Monfort E., 1998. Influencia de las materias primas borácicas en las emisiones de los hornos de fusión de fritas. *Técnica Cerámica*, 263, 494-501.
- Wåhlin P., Berkowicz R., Palmgren F., 2006. Characterisation of traffic-generated particulate matter in Copenhagen. *Atmospheric Environment* 40, 2151-2159.
- Wakamatsu S., Utsunomiya A., Han J.S., Mori A., Uno I., Uehara K., 1996. Seasonal variation in atmospheric aerosol concentration covering Northern Kyushu, Japan and Seoul, Korea. *Atmospheric Environment* 30, 2343-2354.

- Wang X., Ding H., Ryan L., Xu X., 1997. Association between air pollution and low weight birth: A communication-based cohort study. *Environmental Health Perspectives* 105, 514-520.
- Warneck P., 1988. Chemistry of the natural atmosphere. International Geophysics Series. Wiley & Sons. Vol. 41. Academy Press, pp. 757.
- Watson J.G., Chow J.C., Fujita E.M., 2001. Review of volatile organic compound source apportionment by chemical mass balance. *Atmospheric Environment* 35, 1567-1584.
- Watson J.G., Zhu T., Chow J.C., Engelbrecht J., Fujita E.M., Wilson W.E., 2002. Receptor modeling application framework for particle source attribution. *Chemosphere* 49, 1093-1136.
- WBG, 1998. Pollution Prevention and Abatement Handbook 1998: toward cleaner production. The World Bank Group.
- Wedepohl K.H., 1969-1978. Handbook of Geochemistry. Springer-Verlag Berlin. Heidelberg. New York.
- White W.H. y Macias E.S., 1989. Carbonaceous particles and regional haze in the western United States. *Aerosol Science and Technology* 10, 111-117.
- WHO, 2000. Air Quality Guidelines for Europe, Second Edition. WHO Regional Publications, Copenhagen, European Series, No. 91.
- WHO, 2002. Guidelines for concentration and exposure-response measurement of fine and ultra fine particulate matter for use in epidemiological studies. WHO Dietrich Schwela, Lidia Morawska, QUT, Dimitrios Kotzias, EC JRC. Published on behalf of the European Commission.
- WHO, 2003. Health aspects of air pollution with particulate matter, ozone and nitrogen dioxide. World Health Organization.
- Wichmann H.E. y Peters A., 2000. Epidemiological evidence on the effects of ultrafine particle exposure. *Phil. T. Roy. Soc. A* 358, 2751-2769.
- Willison M.J., Clarke A.G., Zeki E.M., 1985. Seasonal variations in atmospheric aerosol concentration and composition at urban and rural sites in northern England. *Atmospheric Environment* 19, 1081-1089.
- Winiwarter W., 2002. Emissions of particulate matter (TSP,PM10,PM2.5). Results and lessons learned from a national inventory National inventory, ARC Seibersdorf Research, Seibersdorf, Austria. Presentation at 'Particles in the size of 2.5 to 10 microns in urban areas' workshop, in support of the Clean Air for Europe (CAFE) programme of DG ENV in Berlin, Germany, November 4-6, 2002.
- Wolff G.T., Groblicki P.J., Cadle S.H., Countess R.J., 1982. Particulate carbon at various locations in the United States. *En Particulate carbon: atmospheric life cycle* (ed. G T Wolff & R L Klimsch), pp. 297-315. Plenum Press.
- Wolff G.T. y Korsog P.E., 1985. Estimates of the contributions of sources to inhalable particulate concentrations in Detroit. *Atmospheric Environment* 19, 1399-1409.

-
- Wolff G.T., Ruthkosky M.S., Stroup D.P., Korsog P.E., 1991. A characterization of the principal PM-10 species in Claremont (summer) and Long Beach (fall) during SCAQS. *Atmospheric Environment* 25 Part A, 2173-2186.
- Woodcock A.H., 1972. Smaller salt particles in oceanic air and bubble behaviour in the sea. *Journal of Geophysical Research* 77, 362-371.
- Wurzler S., Reisin T.G. y Levin Z., 2000. Modification of mineral dust particles by cloud processing and subsequent effects on drop size distributions. *Journal of Geophysical Research* 105, 4501-4512.
- Xu X., Ding H., Wang X., 1995. Acute effects of total suspended particles and sulphur dioxide on preterm delivery: A communication-based cohort study. *Archives on Occupational and Environmental Health* 50, 407-415.
- Yu J., Griffin R.J., Cocker D.R., Flangan R.C., Seinfeld J.H., Blanchard P., 1999. Observation of gaseous and particulate products of monoterpene oxidation in forest atmosphere. *Geophysical Research Letters* 26, 1145-1148.

GLOSARIO

GLOSARIO

A

ANFFECC: Asociación Nacional de Fabricantes de Fritas, Esmaltes y Colores Cerámicos.

ASCER: Asociación Española de Fabricantes de Azulejos y Pavimentos Cerámicos.

Atomización: etapa del proceso de fabricación de baldosas cerámicas en la que se seca la barbotina (ver barbotina) con una corriente de gases a alta temperatura (550-650°C) para dar lugar a un material en forma de gránulos adecuado para su prensado.

Autorización Ambiental Integrada (AAI): documento que agrupa los permisos medioambientales de una instalación industrial en uno solo. Es la resolución del órgano competente de la Comunidad Autónoma en la que se ubique la instalación industrial por la que se permite, a los solos efectos de la protección del medio ambiente y de la salud de las personas, explotar la totalidad o parte de una instalación, bajo determinadas condiciones destinadas a garantizar que dicha instalación cumple el objeto y las disposiciones de la Ley 16/2002.

B

Barbotina: suspensión resultante tras la etapa de molienda, que contiene las materias primas utilizadas para la fabricación del soporte de baldosas cerámicas.

BAT: (ver MTD)

BREF (BAT Reference Document): Documento de referencia para cada sector industrial donde se determinan las Mejores Técnicas Disponibles (MTD), así como los niveles de emisión alcanzables con la implantación de dichas técnicas. Este documento sirve de base a los organismos competentes para otorgar las AAI a las instalaciones afectadas por la Ley 16/2002.

C

Circulaciones mesoescalares: circulaciones de masas de aire desarrolladas en una distancia de entre pocos kilómetros hasta 500-1000 km, cuya duración varía de unas horas hasta pocos días y caracterizadas por la alternancia día-noche.

Circulaciones sinópticas: circulaciones de masas de aire desarrolladas en distancias superiores a 500-1000 km, cuya duración es de varios días.

CIS: compuestos inorgánicos secundarios (tales como NO_3^- , SO_4^{2-} , NH_4^+), también se usan las siglas en inglés SIC (*secondary inorganic compounds*).

Contaminante: sustancia presente en el aire ambiente que no forma parte de su composición, o que siendo parte de su composición se encuentra en concentraciones superiores a la habitual, y que puede tener efectos nocivos sobre la salud o el medio ambiente en su conjunto.

Contaminantes primarios: contaminantes que son vertidos directamente a la atmósfera.

Contaminantes secundarios: contaminantes formados como consecuencia de reacciones físicas y/o químicas que sufren otras sustancias en el seno de la atmósfera.

D

Diámetro aerodinámico: diámetro de una partícula ficticia esférica de densidad 1g/cm^3 que tiene el mismo comportamiento aerodinámico (misma velocidad terminal en régimen estacionario en el aire) que la partícula real.

E

EC: del inglés *European Commission*: Comisión Europea.

EDS (anализador): del inglés *Energy Dispersion Spectroscopy*, tipo de analizador que acoplado al microscopio permite realizar análisis químicos de las partículas de manera individualizada.

Emisión: expulsión a la atmósfera, al agua o al suelo de materiales o formas de energía de forma directa o indirecta.

Emisión canalizada: corriente vertida a la atmósfera a través de una conducción, bien sea fija o móvil.

Emisión difusa o fugitiva: emisión no canalizada, sino vertida a la atmósfera desde una superficie o volumen.

Esmalte cerámico: material preparado a partir de fritas y pigmentos cerámicos y otras materias primas que se aplica sobre el soporte de la baldosa cerámica para dar lugar a un recubrimiento vidriado tras el proceso de cocción.

F

Frita: material vítreo de composición química compleja obtenido por fusión a temperaturas elevadas utilizado como componente de los esmaltes cerámicos.

I

Intrusión africana: transporte de masas de aire con elevada carga de material particulado del Norte de África hacia la zona de estudio.

IPCC: Panel Intergubernamental sobre el Cambio Climático, del inglés *Intergovernmental Panel on Climate Change*

IPPC: nombre de la Directiva 1996/61/CE y la Ley 16/2002 (trasposición de la Directiva a la legislación española): Prevención y Control Integrados de la Contaminación (del inglés *Integrated Pollution Prevention and Control*).

M

Mapa NAAPs: mapa de aerosoles en superficie

Material particulado atmosférico (PM): conjunto de partículas sólidas y/o líquidas, a excepción del agua pura, presentes en la atmósfera.

Material cristal o mineral: material de composición similar a la de la corteza terrestre.

MLRA: del inglés *multilinear regression analysis*, método estadístico de regresión lineal múltiple.

MTD: Mejor Técnica Disponible, término utilizado en inglés como *BAT: best available technique*. Se entiende por:

- Mejor: la técnica más eficaz para proteger al medio ambiente en su conjunto.
- Técnica: la tecnología empleada, incluye el diseño, la construcción, el mantenimiento y la explotación.
- Disponible: viable técnica y económicamente.

O

OM+EC: del inglés *Organic Matter + Elemental Carbon*, también se usan las siglas en español MO+CE (materia orgánica + carbono elemental).

P

PAHs: hidrocarburos aromáticos policíclicos, del inglés *Polycyclic Aromatic Hydrocarbons*.

PCA: del inglés *Principal Component Analysis*, método estadístico de análisis de componentes principales, basado en un análisis factorial.

PM_x: Material particulado en suspensión que atraviesa un cabezal de tamaño selectivo para un diámetro aerodinámico de $x \mu\text{m}$ con una eficiencia de corte del 50%. Los parámetros más habituales son PM₁₀, PM_{2.5} y PM₁. Las siglas PM vienen del inglés *particulate matter*.

PST: partículas en suspensión totales.

R

REEs: tierras raras, del inglés *Rare Earth Elements*.

Retrotrayectoria: trayectoria que ha seguido una masa de aire determinada (presente en un determinado momento en un determinado lugar) durante las horas anteriores (en este trabajo se han utilizado retrotrayectorias de 120h).

S

SeaWIFS: imágenes satélite SeaWIFS.

SEM: del inglés *Scanning Electron Microscopy*, microscopía electrónica de barrido.

W

WHO: Organización Mundial de la Salud (también OMS), del inglés *World Health Organization*.

