# Chul-Un Ro

List of Publications by Year
in descending order



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|---|---|---|---|
| 104 papers | 4,238 citations | 126708 33 h-index | 128067 60 g-index |
| 107 all docs | 107 docs citations | 107 times ranked | 4607 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | A global assessment of precipitation chemistry and deposition of sulfur, nitrogen, sea salt, base cations, organic acids, acidity and pH, and phosphorus. Atmospheric Environment, 2014, 93, 3-100. | 1.9 | 650 |
| 2 | A review of single aerosol particle studies in the atmosphere of East Asia: morphology, mixing state, source, and heterogeneous reactions. Journal of Cleaner Production, 2016, 112, 1330-1349. | 4.6 | 235 |
| 3 | The Amazon Tall Tower Observatory (ATTO): overview of pilot measurements on ecosystem ecology, meteorology, trace gases, and aerosols. Atmospheric Chemistry and Physics, 2015, 15, 10723-10776. | 1.9 | 218 |
| 4 | Determination of Low-Z Elements in Individual Environmental Particles Using Windowless EPMA. Analytical Chemistry, 1999, 71, 1521-1528. | 3.2 | 134 |
| 5 | A Monte Carlo Program for Quantitative Electron-Induced X-ray Analysis of Individual Particles. Analytical Chemistry, 2003, 75, 851-859. | 3.2 | 125 |
| 6 | Source identification of particulate matter collected at underground subway stations in Seoul, Korea using quantitative single-particle analysis. Atmospheric Environment, 2010, 44, 2287-2293. | 1.9 | 114 |
| 7 | Chemical Compositions of Subway Particles in Seoul, Korea Determined by a Quantitative Single Particle Analysis. Environmental Science & Technology, 2008, 42, 9051-9057. | 4.6 | 107 |
| 8 | Single-Particle Characterization of Four â€œAsian Dustâ€•Samples Collected in Korea, Using Low-Z Particle Electron Probe X-ray Microanalysis. Environmental Science & Technology, 2005, 39, 1409-1419. | 4.6 | 100 |
| 9 | Direct observation of nitrate and sulfate formations from mineral dust and sea-salts using low-Z particle electron probe X-ray microanalysis. Atmospheric Environment, 2006, 40, 3869-3880. | 1.9 | 83 |
| 10 | Light Element Analysis of Individual Microparticles Using Thin-Window EPMA. Mikrochimica Acta, 2000, 132, 349-355. | 2.5 | 82 |
| 11 | Elevated nitrogen-containing particles observed in Asian dust aerosol samples collected at the marine boundary layer of the Bohai Sea and the Yellow Sea. Atmospheric Chemistry and Physics, 2009, 9, 6933-6947. | 1.9 | 73 |
| 12 | Chemical speciation of size-segregated floor dusts and airborne magnetic particles collected at underground subway stations in Seoul, Korea. Journal of Hazardous Materials, 2012, 213-214, 331-340. | 6.5 | 72 |
| 13 | Investigation of the Chemical Mixing State of Individual Asian Dust Particles by the Combined Use of Electron Probe X-ray Microanalysis and Raman Microspectrometry. Analytical Chemistry, 2012, 84, 3145-3154. | 3.2 | 70 |
| 14 | Hygroscopic behavior of NaClâ€“MgCl<sub>2</sub> mixture particles as nascent sea-spray aerosol surrogates and observation of efflorescence during humidification. Atmospheric Chemistry and Physics, 2015, 15, 11273-11290. | 1.9 | 70 |
| 15 | Determination of Chemical Species in Individual Aerosol Particles Using Ultrathin Window EPMA. Environmental Science & Technology, 2000, 34, 3023-3030. | 4.6 | 67 |
| 16 | Single-Particle Analysis of Aerosols at Cheju Island, Korea, Using Low-ZElectron Probe X-ray Microanalysis:Â A Direct Proof of Nitrate Formation from Sea Salts. Environmental Science & Technology, 2001, 35, 4487-4494. | 4.6 | 67 |
| 17 | Chemical speciation of individual atmospheric particles using low-Z electron probe X-ray microanalysis:. Atmospheric Environment, 2001, 35, 4995-5005. | 1.9 | 65 |
| 18 | Single-Particle Characterization of Summertime Arctic Aerosols Collected at Ny-Ã…lesund, Svalbard. Environmental Science & Technology, 2010, 44, 2348-2353. | 4.6 | 65 |

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|---|---|---|---|
| 19 | An Expert System for Chemical Speciation of Individual Particles Using Low-ZParticle Electron Probe X-ray Microanalysis Data. Analytical Chemistry, 2004, 76, 1322-1327. | 3.2 | 61 |
| 20 | Deliquescence and efflorescence behavior of individual NaCl and KCl mixture aerosol particles. Atmospheric Environment, 2014, 82, 36-43. | 1.9 | 61 |
| 21 | Hygroscopic properties of NaCl and NaNO<sub>3</sub> mixture particles as reacted inorganic sea-salt aerosol surrogates. Atmospheric Chemistry and Physics, 2015, 15, 3379-3393. | 1.9 | 55 |
| 22 | Changes in Freshwater Acidification Trends in Canada's Atlantic Provinces: 1983â€“1997. Water, Air, and Soil Pollution, 2002, 135, 335-354. | 1.1 | 53 |
| 23 | Chemical characteristics of long-range transport aerosol at background sites in Korea. Atmospheric Environment, 2009, 43, 5556-5566. | 1.9 | 52 |
| 24 | Iron Speciation of Airborne Subway Particles by the Combined Use of Energy Dispersive Electron Probe X-ray Microanalysis and Raman Microspectrometry. Analytical Chemistry, 2013, 85, 10424-10431. | 3.2 | 49 |
| 25 | Quantitative characterization of individual aerosol particles by thin-window electron probe microanalysis combined with iterative simulation. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2000, 55, 1017-1030. | 1.5 | 45 |
| 26 | Combined Use of Optical and Electron Microscopic Techniques for the Measurement of Hygroscopic Property, Chemical Composition, and Morphology of Individual Aerosol Particles. Analytical Chemistry, 2010, 82, 7999-8009. | 3.2 | 43 |
| 27 | X-ray Spectrometry. Analytical Chemistry, 2012, 84, 636-668. | 3.2 | 42 |
| 28 | Organic surface coating on Coccolithophores - Emiliania huxleyi: Its determination and implication in the marine carbon cycle. Microchemical Journal, 2009, 91, 266-271. | 2.3 | 41 |
| 29 | Single-Particle Characterization of Urban Aerosol Particles Collected in Three Korean Cities Using Low-ZElectron Probe X-ray Microanalysis. Environmental Science & Technology, 2002, 36, 4770-4776. | 4.6 | 40 |
| 30 | Thermal stability of beam sensitive atmospheric aerosol particles in electron probe microanalysis at liquid nitrogen temperature. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2003, 58, 479-496. | 1.5 | 38 |
| 31 | Single-particle characterization of aerosol samples collected before and during an Asian dust storm in Chuncheon, Korea. Atmospheric Environment, 2008, 42, 8738-8746. | 1.9 | 38 |
| 32 | Influence of Collecting Substrates on the Characterization of Hygroscopic Properties of Inorganic Aerosol Particles. Analytical Chemistry, 2014, 86, 2648-2656. | 3.2 | 38 |
| 33 | Assessment of the air quality (NO2, SO2, O3 and particulate matter) in the Plantin-Moretus Museum/Print Room in Antwerp, Belgium, in different seasons of the year. Microchemical Journal, 2012, 102, 49-53. | 2.3 | 37 |
| 34 | Characterization of individual submicrometer aerosol particles collected in Incheon, Korea, by quantitative transmission electron microscopy energyâ€dispersive Xâ€ray spectrometry. Journal of Geophysical Research, 2010, 115, . | 3.3 | 35 |
| 35 | Investigation of aged aerosols in size-resolved Asian dust storm particles transported from Beijing, China, to Incheon, Korea, using low-<i>Z</i> particle EPMA. Atmospheric Chemistry and Physics, 2014, 14, 3307-3323. | 1.9 | 35 |
| 36 | Characterisation of individual aerosol particles collected during a haze episode in Incheon, Korea using the quantitative ED-EPMA technique. Atmospheric Chemistry and Physics, 2011, 11, 1327-1337. | 1.9 | 33 |

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|---|---|---|---|
| 37 | Investigation of aged Asian dust particles by the combined use of quantitative ED-EPMA and ATR-FTIR imaging. Atmospheric Chemistry and Physics, 2013, 13, 3463-3480. | 1.9 | 32 |
| 38 | Speciation of Individual Mineral Particles of Micrometer Size by the Combined Use of Attenuated Total Reflectance-Fourier Transform-Infrared Imaging and Quantitative Energy-Dispersive Electron Probe X-ray Microanalysis Techniques. Analytical Chemistry, 2010, 82, 6193-6202. | 3.2 | 31 |
| 39 | Single-particle investigation of summertime and wintertime Antarctic sea spray aerosols using low-<i>Z</i> particle EPMA, Raman microspectrometry, and ATR-FTIR imaging techniques. Atmospheric Chemistry and Physics, 2016, 16, 13823-13836. | 1.9 | 31 |
| 40 | Characterization of LiF Using XPS. Surface Science Spectra, 1992, 1, 277-283. | 0.3 | 30 |
| 41 | Relationship between reactive oxygen species and water-soluble organic compounds: Time-resolved benzene carboxylic acids measurement in the coastal area during the KORUS-AQ campaign. Environmental Pollution, 2017, 231, 1-12. | 3.7 | 30 |
| 42 | Single-particle characterization of four aerosol samples collected in ChunCheon, Korea, during Asian dust storm events in 2002. Journal of Geophysical Research, 2005, 110, . | 3.3 | 27 |
| 43 | Quantitative ED-EPMA combined with morphological information for the characterization of individual aerosol particles collected in Incheon, Korea. Atmospheric Environment, 2009, 43, 3445-3453. | 1.9 | 27 |
| 44 | Attenuated Total Reflectance FT-IR Imaging and Quantitative Energy Dispersive-Electron Probe X-ray Microanalysis Techniques for Single Particle Analysis of Atmospheric Aerosol Particles. Analytical Chemistry, 2009, 81, 6695-6707. | 3.2 | 27 |
| 45 | Thin-window electron probe X-ray microanalysis of individual atmospheric particles above the North Sea. Atmospheric Environment, 2005, 39, 3231-3242. | 1.9 | 26 |
| 46 | Single-Particle Characterization of Summertime Antarctic Aerosols Collected at King George Island Using Quantitative Energy-Dispersive Electron Probe X-ray Microanalysis and Attenuated Total Reflection Fourier Transform-Infrared Imaging Techniques. Environmental Science & Technology, 2011, 45, 6275-6282. | 4.6 | 26 |
| 47 | Morphological and chemical composition characteristics of summertime atmospheric particles collected at Tokchok Island, Korea. Atmospheric Environment, 2009, 43, 3364-3373. | 1.9 | 25 |
| 48 | Annual resolution analysis of a SW-France stalagmite by X-ray synchrotron microprobe analysis. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2003, 58, 851-865. | 1.5 | 24 |
| 49 | Chemical Speciation of Individual Airborne Particles by the Combined Use of Quantitative Energy-Dispersive Electron Probe X-ray Microanalysis and Attenuated Total Reflection Fourier Transform-Infrared Imaging Techniques. Analytical Chemistry, 2010, 82, 7987-7998. | 3.2 | 24 |
| 50 | Real-Time Investigation of Chemical Compositions and Hygroscopic Properties of Aerosols Generated from NaCl and Malonic Acid Mixture Solutions Using in Situ Raman Microspectrometry. Environmental Science & Technology, 2017, 51, 263-270. | 4.6 | 24 |
| 51 | Simulation study on regeneration of depth profiles from angle-resolved XPS data. Surface and Interface Analysis, 1997, 25, 869-877. | 0.8 | 23 |
| 52 | X-ray Spectrometry. Analytical Chemistry, 2008, 80, 4421-4454. | 3.2 | 23 |
| 53 | Single-particle analysis of industrial emissions brings new insights for health risk assessment of PM. Atmospheric Pollution Research, 2018, 9, 697-704. | 1.8 | 23 |
| 54 | Single-particle characterization of aerosols collected at a remote site in the Amazonian rainforest and an urban site in Manaus, Brazil. Atmospheric Chemistry and Physics, 2019, 19, 1221-1240. | 1.9 | 23 |

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| 55 | Heterogeneity Assessment in Individual CaCO3â˜CaSO4Particles Using Ultrathin Window Electron Probe X-ray Microanalysis. Analytical Chemistry, 2001, 73, 4574-4583. | 3.2 | 22 |
| 56 | Combined use of quantitative ED-EPMA, Raman microspectrometry, and ATR-FTIR imaging techniques for the analysis of individual particles. Analyst, The, 2014, 139, 3949-3960. | 1.7 | 22 |
| 57 | Single-particle characterization of indoor aerosol particles collected at an underground shopping area in Seoul, Korea. Indoor Air, 2011, 21, 12-24. | 2.0 | 21 |
| 58 | Hygroscopic behavior of wet dispersed and dry deposited NaNO3 particles. Atmospheric Environment, 2012, 60, 68-75. | 1.9 | 21 |
| 59 | Contribution of Canadaâ€“United States transboundary transport to wet deposition of sulphur and nitrogen oxidesâ€”A mass balance approach. Atmospheric Environment, 2008, 42, 2518-2529. | 1.9 | 20 |
| 60 | Single-Particle Mineralogy of Chinese Soil Particles by the Combined Use of Low-ZParticle Electron Probe X-ray Microanalysis and Attenuated Total Reflectance-FT-IR Imaging Techniques. Analytical Chemistry, 2011, 83, 7970-7977. | 3.2 | 19 |
| 61 | Acid solution decreases the compressional wave velocity of sandstone from the Yungang Grottoes, Datong, China. Heritage Science, 2019, 7, . | 1.0 | 19 |
| 62 | Molecular speciation of microparticles: application of pattern recognition techniques to laser microprobe mass spectrometric data. Analytica Chimica Acta, 1991, 243, 139-147. | 2.6 | 18 |
| 63 | X-ray Spectrometry. Analytical Chemistry, 2000, 72, 211-234. | 3.2 | 18 |
| 64 | Studies on the wood tissue substitution by silica and calcite during the preservation of fossil wood. Journal of Alloys and Compounds, 2004, 362, 107-115. | 2.8 | 18 |
| 65 | Nitrogen and sulfur compounds in coastal Antarctic fine aerosol particlesâ€”an insight using non-destructive X-ray microanalytical methods. Atmospheric Environment, 2006, 40, 4691-4702. | 1.9 | 18 |
| 66 | X-ray Spectrometry. Analytical Chemistry, 2010, 82, 4950-4987. | 3.2 | 18 |
| 67 | Characterization of Summertime Aerosol Particles Collected at Subway Stations in Seoul, Korea Using Low-Z Particle Electron Probe X-ray Microanalysis. Asian Journal of Atmospheric Environment, 2010, 4, 97-105. | 0.4 | 18 |
| 68 | Multi-Modal Compositional Analysis of Layered Paint Chips of Automobiles by the Combined Application of ATR-FTIR Imaging, Raman Microspectrometry, and SEM/EDX. Molecules, 2019, 24, 1381. | 1.7 | 17 |
| 69 | Single-particle characterization of soil samples collected at various arid areas of China, using low-Z particle electron probe X-ray microanalysisâ˜†. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2006, 61, 393-399. | 1.5 | 16 |
| 70 | Analyses of petrified wood by electron, X-ray and optical microprobes. Journal of Analytical Atomic Spectrometry, 1999, 14, 435-446. | 1.6 | 15 |
| 71 | Evaluation of energy-dispersive x-ray spectra of low-Zelements from electron-probe microanalysis of individual particles. X-Ray Spectrometry, 2001, 30, 419-426. | 0.9 | 15 |
| 72 | Single-particle characterization of â€œAsian Dustâ€•certified reference materials using low-Z particle electron probe X-ray microanalysis. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2006, 61, 400-406. | 1.5 | 15 |

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| 73 | Hygroscopic Behavior of Ammonium Sulfate, Ammonium Nitrate, and their Mixture Particles. Asian Journal of Atmospheric Environment, 2019, 13, 196-211. | 0.4 | 15 |
| 74 | Application of chemometric methods for classification of atmospheric particles based on thin-window electron probe microanalysis data. Analytica Chimica Acta, 2001, 446, 209-220. | 2.6 | 14 |
| 75 | Assessment of homogeneity of candidate reference material at the nanogram level and investigation on representativeness of single particle analysis using electron probe X-ray microanalysis. Analytica Chimica Acta, 1999, 389, 151-160. | 2.6 | 13 |
| 76 | Analysis of speleothems by electron and X-ray microprobes. Journal of Analytical Atomic Spectrometry, 2001, 16, 90-95. | 1.6 | 13 |
| 77 | Studies of Spatial Variabilities of Airborne Metals Across Four Different Land-Use Types. Water, Air, and Soil Pollution, 2002, 138, 7-24. | 1.1 | 13 |
| 78 | Single-particle characterization of municipal solid waste (MSW) ash particles using low-Z particle electron probe X-ray microanalysis. Atmospheric Environment, 2006, 40, 2873-2881. | 1.9 | 11 |
| 79 | Molecular mass concentrations for a powdered SRM sample using a quantitative single particle analysis. Analytica Chimica Acta, 2008, 619, 14-19. | 2.6 | 11 |
| 80 | Characterization of Individual Atmospheric Aerosols Using Quantitative Energy Dispersive-Electron Probe X-ray Microanalysis: A Review. Asian Journal of Atmospheric Environment, 2010, 4, 115-140. | 0.4 | 11 |
| 81 | Long-range transport impacts from biomass burning and secondary pollutant sources based on receptor models during KORUS-AQ campaign. Atmospheric Environment, 2022, 276, 119060. | 1.9 | 11 |
| 82 | Investigation of chemical composition of belemnite rostra by synchrotron-based X-ray microfluorescence and diffraction and electron microprobe. Journal of Alloys and Compounds, 2004, 362, 99-106. | 2.8 | 10 |
| 83 | The influence of collecting substrates on the single-particle characterization of real atmospheric aerosols. Analytica Chimica Acta, 2010, 658, 120-127. | 2.6 | 10 |
| 84 | Hygroscopic behavior of aerosols generated from solutions of 3-methyl-1,2,3-butanetricarboxylic acid, its sodium salts, and its mixtures with NaCl. Atmospheric Chemistry and Physics, 2020, 20, 14103-14122. | 1.9 | 10 |
| 85 | Single-Particle Characterization of Atmospheric Aerosols Collected at Gosan, Korea, during the Asian Pacific Regional Aerosol Characterization Experiment Field Campaign Using Low-Z (Atomic Number) Particle Electron Probe X-ray Microanalysis. Journal of the Air and Waste Management Association, 2011, 61, 1183-1191. | 0.9 | 9 |
| 86 | Nondestructive Characterization of Municipal-Solid-Waste-Contaminated Surface Soil by Energy-Dispersive X-ray Fluorescence and Low-Z (Atomic Number) Particle Electron Probe X-ray Microanalysis. Journal of the Air and Waste Management Association, 2011, 61, 1102-1114. | 0.9 | 9 |
| 87 | An investigation into the relationship between the major chemical components of particulate matter in urban air. Chemosphere, 2014, 95, 387-394. | 4.2 | 9 |
| 88 | Single particle mineralogy of microparticles from Himalayan ice-cores using SEM/EDX and ATR-FTIR imaging techniques for identification of volcanic ash signatures. Chemical Geology, 2019, 504, 205-215. | 1.4 | 9 |
| 89 | Characterization of size-resolved urban haze particles collected in summer and winter at Taiyuan City, China using quantitative electron probe X-ray microanalysis. Atmospheric Research, 2017, 190, 29-42. | 1.8 | 8 |
| 90 | Determination of Atmospheric Perfluorocarbon Background Concentrations of fL/L Range at the Western Coastal Area of Korea. Bulletin of the Korean Chemical Society, 2002, 23, 301-308. | 1.0 | 8 |

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| 91 | Collisional energy transfer in the two-channel thermal unimolecular reaction of bromoethane-2-d. The Journal of Physical Chemistry, 1987, 91, 2354-2358. | 2.9 | 7 |
| 92 | Quantitative energy-dispersive electron probe X-ray microanalysis of individual particles. Powder Diffraction, 2006, 21, 140-144. | 0.4 | 7 |
| 93 | Alveolar macrophage reaction to PM2.5 of hazy day in vitro: Evaluation methods and mitochondrial screening to determine mechanisms of biological effect. Ecotoxicology and Environmental Safety, 2019, 174, 566-573. | 2.9 | 6 |
| 94 | Aerosol Hygroscopicity on A Single Particle Level Using Microscopic and Spectroscopic Techniques: A Review. Asian Journal of Atmospheric Environment, 2020, 14, 177-209. | 0.4 | 6 |
| 95 | Hygroscopic behavior and chemical reactivity of aerosols generated from mixture solutions of low molecular weight dicarboxylic acids and NaCl. Physical Chemistry Chemical Physics, 2021, 23, 11052-11064. | 1.3 | 4 |
| 96 | Microspectrometric Investigation of Petrified Wood from South-Eastern Poland. Mikrochimica Acta, 2001, 137, 173-183. | 2.5 | 3 |
| 97 | Quantitative energy-dispersive electron probe X-ray microanalysis for single-particle analysis and its application for characterizing atmospheric aerosol particles. Pramana - Journal of Physics, 2011, 76, 281-292. | 0.9 | 3 |
| 98 | Microscopic Single-Particle Analytical Methods for Aerosol Characterisation. Comprehensive Analytical Chemistry, 2015, , 331-366. | 0.7 | 2 |
| 99 | Single-particle Characterization of Aerosol Particles Collected Nearby a Lead Smelter in China. Asian Journal of Atmospheric Environment, 2012, 6, 83-95. | 0.4 | 2 |
| 100 | Tracer Experiment for the Investigation of Urban Scale Dispersion of Air Pollutants - Simulation by CALPUFF Dispersion Model and Diffusion Feature of Tracer Gases. Journal of Korean Society for Atmospheric Environment, 2007, 23, 405-419. | 0.2 | 2 |
| 101 | Single-particle Characterization of Aerosol Samples Collected at an Underground Shopping Area. Journal of Korean Society for Atmospheric Environment, 2008, 24, 594-603. | 0.2 | 1 |
| 102 | Single-Particle Characterization of Municipal Solid Waste (MSW) Ash Particles Using Low-Z Particle Electron Probe X-ray Microanalysis. Journal of Aerosol Science, 2004, 35, S1091-S1092. | 1.8 | 0 |
| 103 | Tracer Experiment for the Investigation of Urban Scale Dispersion of Air Pollutants - An Improved Method for the Release and Determination of Perfluorocarbon Tracers in the Urban Atmosphere. Journal of Korean Society for Atmospheric Environment, 2007, 23, 547-556. | 0.2 | 0 |
| 104 | Diagnosis of Transboundary Mass Fluxes from Modelled North American Regional Sulphur and Nitrogen Deposition Fields. Springer Proceedings in Complexity, 2016, , 295-300. | 0.2 | 0 |