

Subject Index

- α -pinene, 322, 323, 389
- β -pinene, 323, 389
- 1,1,1-trichloroethane, 81
- 1,2,4-trimethylbenzene, 81
- 1,3,5-trimethylbenzene, 81
- 1,3-butadiene, 10, 199, 311
- 1-butene, 311
- 1-pentene, 311
- 2-butene, 311
- 2-methyl 1-butene, 311
- 2-methyl 2-butene, 311
- 2-methyl butane, 311
- 2-methyl propane, 311
- 2-methyl propene, 311
- 2-pentene, 311
- 2-methyl-2-butene, 310
- 3-methyl 1-butene, 311
- Aalborg Charter, 4
- abatement strategies, 11
- absorption coefficient, 465
- accidents, 281
- accumulation mode particles, 525
- acetaldehyde, 299, 311
- acetone, 92, 299, 393, 409
- acid
 - deposition, 216
 - rain, 198, 249
- acidification, 197, 215, 227
- phenomena, 36
- adenotonsillectomy, 112
- adhesives, 80
- adipic acid, 323
- aerodynamic
 - diameter, 481
 - particle size, 469
 - size, 446
- aerosol, 444
 - activation, 530
 - chemical composition, 479
 - chemical properties, 443
 - formation, 321, 522
 - instruments, 447
 - integral properties, 443
 - loadings, 520
 - measurement, 443, 444
- mobility chromatograph, 476
- nucleation, 540
- optical properties, 462
- physical properties, 452
- processes, 521
- sampling inlets, 448
- sampling rate, 454
- size distributions, 443, 531
- volatility, 477
- water content, 475
- aethalometer, 466
- Africa, 41
- agenda 21, 4
- air conditioning units, 198
- air quality, 21, 53
 - Act, 22
 - indicators, 3
 - standards, 286
- air transport, 188
- airborne sampling, 267
- aircraft, 198, 210, 247, 573, 574, 578
 - data sets, 397
 - design, 196
 - exhaust particles, 520
 - missions, 394
 - observations, 435
 - sampling, 450
- airports, 210
- airtight, 57
- Aitken, 453, 521
 - mode particles, 525
- aldehydes, 10, 92, 297, 311
- Alexandria, 41
- alkane, 297, 311
- alkenes, 310, 311
- alkyl nitrates, 293
- allergens, 60, 147, 149
- ambient air quality, 3
- ambient particulate measurements, 448
- ammonium, 520
 - nitrate, 139, 257
 - sulphate, 323
- Amsterdam, 145, 222
- ANATEX, 633
- Antarctica, 198
- anthropogenic hydrocarbons, 348

- anthropogenic particles, 520
 aromatics, 311
 arsenic, 21
 asbestos, 57, 60, 64
 Asia, 565
 Asian cities, 241
Aspergillus, 87
 asthma, 78, 85, 88, 111, 199, 200
 Athens, 22, 221, 222, 340, 367
 Atlanta, 54, 368, 374
 atmospheric boundary layer, 569, 570
 atopic dermatitis, 88
 attenuation, 130
 Australia, 565
 Australian cities, 140
 Auto Oil I Programme, 21
 autocatalytic production, 411
 aviation industry, 245
- bacteria, 87
 bacterial aerosols, 149
 balloons, 628
 Bangkok, 39, 241, 243
 Bangladesh, 226
 Basle, 140
 bedroom, 126
 Beijing, 38, 224, 242
 benzene, 21, 22, 30, 50, 63, 81, 199, 208,
 311
 Bergen, 222
 best available technology, 218
 beta gauges, 459
 bioaerosols, 118, 147
 biofuels, 6
 biogenic hydrocarbons, 320, 339, 346–348,
 350, 541
 biological allergens, 83
 biological markers, 123
 biological particles, 57
 biomass burning, 36, 520
 biosensors, 655
 biosphere–atmosphere feedbacks, 387
 Birmingham, 566
 black carbon, 520
 black smoke, 26
 black triangle, 197
 Bombay, 39, 241
 Boston, 143
 bottom-up approach, 193
 Brazil, 40
- breathing disorders, 242
 bridges, 191
 Brisbane, 566
 bronchitis, 111
 building design, 57
 building materials, 57, 80
 building related illness, 62
 buildings, 203
 bus, 127
 butane, 311
- cadmium, 10, 21
 Cairo, 41, 241
 Calcutta, 39, 241
 calibration aerosols, 443, 491
 California, 138, 148, 198
 Canada, 35
 cancer, 199
 – risk, 113
 CAPTEX, 633
 car, 127
 – drivers, 203
 – emission limits, 222
 – exhaust, 12
 – ownership, 223
 carbon dioxide, 4, 60, 65, 190, 194, 208,
 440
 – emissions, 245
 carbon emissions negotiations, 226
 carbon monoxide, 7, 9, 10, 21, 22, 29, 60,
 63, 66, 190, 199, 205, 208, 211, 288,
 297
 carbonaceous particles, 190
 carboxylic acids, 92, 322
 carcinogenesis, 74
 carcinogens, 199
 cardiovascular disease, 199
 Caribbean, 40
 catalyst, 254
 catalytic converters, 44, 49, 189, 197
 cats, 84, 86
 CCN concentration, 443
 central heating, 196
 chain length, 306, 307
 chemical composition, 533
 chemical fingerprinting, 281
 chemical kinetics, 286
 chemical lifetimes, 311
 chemical mixing, 529
 chemical reaction cycles, 214

- chemical regimes, 417
chemical transport model, 519, 548
chermal conductivity detector, 476
chest congestion, 90
Chicago, 138
children, 199
children's health, 110
chimneys, 58
China, 35
China coal, 36
chlorofluorocarbons, 198
chromosome aberration, 124
chronic effects, 205
cirrus clouds, 395
cities, 51
city planning, 19
Cladosporium, 87
Clean Air Act, 3, 22, 55, 96
clean air legislation, 196
clean development mechanism, 439
cleaning, 143
climate change, 198
– negotiations, 439
climatic change, 439
clothing, 80
cloud chambers, 455, 456
cloud condensation nuclei, 323, 455
cloud formation, 455
cluster analysis, 640
CNC pulse height analysis, 475
coagulation, 135, 526
coal, 24, 63, 196, 197
– burning facilities, 54
– combustion, 187
coarse mode particles, 525
coarse particles, 14
cockroaches, 84, 85
Cologne, 22
combustion, 10, 63, 249, 523
– appliances, 80
– plant, 197
– products, 57
– sources, 3
commuters, 204
commuting, 204
Concorde, 196
concrete, 191
condensation, 529
– nucleus counters, 452
conditional probability fields, 641
congestion, 19
construction technology, 57
continental boundary layer, 525
contraction and convergence, 440
contrails, 213, 215, 245
convection, 396, 536, 538
convective boundary layer, 571, 579
convective injection, 394, 422
convective outflows, 410
cooking, 6, 57, 63, 70, 142, 143
cooling tower plume, 266
COPD, 113
Criegee biradical, 310
Criegee intermediate, 251
critical load, 217
crops, 286
cruising altitude, 211
cyclists, 203, 204
cycloalkenes, 321
cyclones, 449
cystic fibrosis, 112
daughter directives, 21
deep convection, 394
Delhi, 241
deliquescence point, 323
deposition, 526
– models, 258
– velocity, 258
desert, 36
desulfurisation investment, 36
developing countries, 3, 5, 42, 241, 439
Dhaka, 224, 241
diagnosis, 92
diagnostic equations, 583
diagnostic wind field models, 620
diary records, 17
dicarboxylic acids, 322, 323
dichloroethane, 81
dielectric constant, 476
dienes, 310
diesel
– emissions control, 189
– engine, 190, 199
– – sources, 194
– exhaust, 140, 146
– exhaust particles, 209, 210
– oil, 11
differential mobility analyzer, 493
differential mobility particle sizer, 471

- diffusion batteries, 474
- diffusion denuder method, 479
- diffusion tubes, 456
- dimethyl disulphide, 311
- dimethyl ether, 299
- dimethyl sulphide, 311, 320
- dinitrogen pentoxide, 312
- dispersion, 12, 339, 571
 - models, 127, 587
- dizziness, 90
- DMS oxidation, 538
- dogs, 84, 86
- Doppler profiler, 574
- dose, 119
- downdrafts, 637
- drift correction velocity, 637
- driving restrictions, 19
- dry deposition, 217, 258, 375
- dry skin, 90
- dust, 85, 533
- dust-mite, 84
- dusting, 141
- dynamical inconsistencies, 626
- dynamical tracers, 634

- East Asia, 35
- Ebola virus, 89
- EC directives, 21
- economic development, 24
- economic incentives, 189
- ecosystems, 388
- education programmes, 96
- eigenlifetime analysis, 397
- Eire, 218
- electric power, 191
 - plants, 54
- electric railways, 191
- electrical mobility
 - analyzers, 471
 - size, 446
- electricity, 64, 221
- electron microscopy, 483
- electrostatic classification, 474, 493
- emission inventories, 11, 189, 192, 271, 284, 355, 367, 370
 - factors, 192, 193
 - rates, 356
 - trading, 246, 439
- endotoxins, 149
- energy
 - consumption, 6, 36
 - efficiency, 57
- ensemble methods, 627
- enthalpy, 251
- entrainment layer, 571
- enzymes, 123
- epidemiological studies, 61, 120, 184, 199, 205, 206, 210
- epiphaniometer, 462
- error trajectory, 623
- ETEX, 633
- ethane, 299, 311
- ethene, 10, 299, 311
- ethyl benzene, 311
- ETS, 77, 111, 145
- Eulerian, 616
- European emissions standards, 222
- European Union, 21
- evaporative losses, 444, 480
- exhaust, 190
 - emissions, 196
- expansion chamber, 521
- exposure, 15, 31, 57, 60, 242
 - assessment, 117, 118
 - measurement, 129
 - pathways, 123, 206
- extrinsic allergic alveolitis, 88
- eye problems, 90

- farm products, 150
- fast photochemistry, 289
- fatigue, 90
- federal reference method, 494
- field measurements, 339, 341
- filter, 458
 - gravimetric measurements, 459
 - holders, 459
 - measurements, 443
 - sampling, 481
 - sampling media, 459
- fine particles, 14, 50, 146, 193, 194, 199
- fingerprinting technique, 282
- fires, 58
- fixed-point sampling, 448
- flight paths, 214
- flow climatologies, 640
- flue gas, 249
- FMI routine, 605
- forest fires, 36

- formaldehyde, 60, 68, 113, 252, 298, 311, 361, 411
fossil fuel, 4, 6, 190, 197, 247, 249
fractal-like aggregates, 523
France, 218
free radicals, 288, 289, 312, 318
free troposphere, 525
freight, 188
frontal surfaces, 536
fuel, 221
– cell, 190, 221
– droplets, 190
– economy, 196
– life-cycle, 191
fugitive emissions, 281
fungal spores, 60
fungi, 84, 87, 148
furnishings, 80
- gas appliances, 117
gas cooking, 141
gas-to-particle conversion, 319
general circulation, 542
– model, 519
genetically modified food, 655
Geneva Convention, 23
Georgia, 54
geostationary observation, 436
German reunification, 25
global commons, 659
global growth, 4
global pollution, 4
global radiation balance, 537
global trends, 5
global troposphere, 519
global warming, 198, 212, 226
– potential, 284
glutaric acid, 323
Gothenburg protocol, 216
green politics, 197
greenhouse effect, 4
greenhouse gases, 191, 198, 389
Gulf war, 634
- Hackney coaches, 223
Harlem, New York, 140
harmonic oscillating elements, 461
Harvard Six-City Study, 75
hazardous air pollutants, 7
haze, 36
- chambers, 455
– layers, 389
headache, 62, 90
health, 15, 57, 146, 183, 199, 202, 286
heating, 6, 57, 63
– systems, 49
Henry's law constant, 253
heterogeneous chemical reactions, 521
heterogeneous pathways, 214
high pressure events, 14
Ho Chi Minh City, 38
homes, 57, 126
Hong Kong, 73
hospital admissions, 183
HPDM meteorological preprocessor, 605
Huddersfield, UK, 138
human activities, 4
human exposure, 118, 203
humidifier fever, 88
hydrocarbons, 10, 14, 190, 211, 339
hydrogen, 190, 221
– peroxide, 252, 254, 305
hydroperoxides, 305
hydroperoxy radical, 288
hydroxyl radical, 251, 300, 317, 341, 393
hygroscopic, 444
– aerosols, 319
– properties, 323, 475, 525
- ice and cloud nuclei, 521
ice nuclei, 211
impactors, 449, 481
impacts, 17
in vitro research, 61
in-stack sampling, 474
income, 6
incremental reactivity, 348
India, 35
Indonesia, 35
indoor air quality, 57
indoor sports, 127
indoors, 50
industrial processes, 281
inertial classification, 449
infants, 111
inhalation, 85
integral measurements, 452
integrated land use, 19
integrated pollution control, 281
integrating plate technique, 465

- international policies, 659
- interpolation errors, 623
- inverse modeling, 644
- iron, 254
- isentropic coordinates, 625
- isentropic potential vorticity, 634
- isokinetic aircraft probes, 450
- isoprene, 295, 311, 348, 368, 387
 - degradation, 296
- isosigma trajectories, 625
- Jakarta, 242
- Japan, 39
- jet engines, 213
- Johannesburg, 41
- Köhler theory, 524
- Karachi, 241
- Katowice, 25
- kerbside, 202
- kerosene heaters, 141
- ketones, 297
- kitchen, 126
- Kuwait oil fires, 634
- Kyoto Protocol, 246, 439
- Kyoto summit, 198
- Lagrangian, 616
 - box models, 639
 - particle dispersion models, 635
- Lake Michigan, 373
- laser microprobe mass spectrometry, 483
- Lassa fever, 89
- latex, 149
- Latin America, 40
- Law of the Atmosphere, 659
- Law of the Sea, 659
- lead, 7, 10, 21, 22, 29, 63, 124, 190, 199, 205
- Legionnaire's disease, 89
- legislation, 21, 22, 44, 95, 189
- lichen, 655
- Lidar, 575, 576, 578
- life expectancy, 183
- Life-cycle Assessment, 191
- lifestyles, 58
- lightning, 396
- limonene, 81, 323
- lipopolysaccharides, 149
- living room, 126
- Lloyd's Register of Shipping, 216
- local emissions, 4
- London, 22, 183, 204, 223
- London Research Centre, 193
- London smog disaster, 3
- long-range transport, 23, 194
- Los Angeles, 12, 32, 138, 197, 222, 286, 355, 366, 368, 486
- lung, 209
 - cancer, 79, 114
 - deposition, 470
 - disease, 242
 - function, 124
- Lyon, 22
- m*-xylene, 311
- Madrid, 22
- Major Air Pollutants, 7
- manganese, 254
- Manila, 242
- manual methods, 458
- Marburg virus, 89
- marine boundary layer, 525, 535
- marine sampling, 450
- marine stratus clouds, 524
- Markov process, 636
- Massachusetts, 204
- mast, 574, 578
- material surface, 617
- material tracers, 631
- materials, 17, 286
- Maximum Incremental Reactivity, 308
- MCS, 93
- measurement errors, 129
- mercury, 10, 21
- mesothelioma, 57
- meteorological complexity factor, 628
- meteorology, 356
- methacrolein, 295
- methane, 190, 208, 245, 255, 299, 388, 393, 411
- methanol, 299
- methyl-tert-butyl ether, 10
- Mexico City, 40, 224, 241, 565
- microbalance, 476
- microenvironments, 125
- microorganisms, 60, 87
- microphysical aerosol processes, 519
- microphysics, 522
- microwave resonance, 476

- middle ear disease, 112
Milan, 22
miners' canary, 655
minimum detectable size, 454
mites, 83
mixing height, 569, 571
– determination, 572
mixing layer, 570
monitoring techniques, 281
monoterpene, 310, 320, 322
Montreal Protocol, 198
morbidity, 196, 206
mortality, 19, 196, 206
moss, 655
motor vehicles, 6, 241, 242
motorbike use, 37
motorcycles, 6
MTBE, 10
multicomponent aerosol, 523, 529
multiple chemical sensitivity (MCS), 93
municipal waste, 6
muscle pain, 90
- n*-decane, 81
Nairobi, 41
nanoparticles, 454
narcotics, 82
nasal congestion, 90
natural gas, 64, 196
nausea, 90
nephelometers, 463
Netherlands, 218
neurological symptoms, 90
neutral boundary layer, 572
nickel, 10, 21
night-time chemistry, 285, 312, 317
nitrate, 520
– aerosol, 208, 270
– radical, 256, 312, 314
nitric acid, 255, 256
nitric oxide, 191, 201
nitrogen, 249
– dioxide, 7, 21–23, 31, 60, 69, 117, 191,
 200, 291, 305
– fertilisation, 388
– oxides, 6, 9, 12, 29, 63, 208, 211, 247,
 249, 255, 285, 287, 339, 340, 393,
 394
nitrous acid, 252, 291, 302
nitrous oxide, 191, 208, 225
- NO_x-limited conditions, 307
NO_x-limited regime, 420
NO_x-sensitive regime, 343
NO_x titration, 344
nocturnal inversion, 389
nonattainment, 54
North America, 32
North Sea, 218
nuclear power, 197
nucleation, 320, 528
– mode particles, 525
– theory, 523
nucleopore filters, 450
number concentration, 452
numerical weather prediction, 620
- o*-xylene, 81, 311
observation-based methods, 365
odd hydrogen radicals, 341, 359
odd oxygen, 359
OECD trend indicators, 31, 35, 39
off-line measurements, 479
offices, 57
oil, 190
oil price rises, 198
OML meteorological preprocessor, 604
open spaces, 19
optical coefficients, 443
optical particle counters, 456, 467
optical sizes, 446
organic aerosol, 541
organic carbon, 443, 520
organic nitrates, 292, 294, 309, 364
organic oxygenates, 285, 320
organic peroxides, 254
organic peroxy nitrates, 294
organic peroxy radicals, 288, 292, 294, 305
organic species, 443
organic substances, 60
Oslo, 222
oxidation rate, 251
oxidised nitrogen species, 290
oxyacids of nitrogen, 290
ozone, 12, 14, 21, 30, 32, 54, 60, 63, 117,
 200, 206, 208, 245, 249, 285, 339,
 340, 393, 417
– creation potential, 284
– depletion, 198
– – potential, 284, 308
– formation, 340

- greenhouse forcing, 394
- hole, 198
- isopleth plots, 342
- precursor, 351
- - relationship, 339
- production efficiency, 308, 359
- NO_x-VOC sensitivity, 341
- ozonolysis, 322
-
- p*-dichlorobenzene, 81
- p*-xylene, 311
- paints, 57, 80
- Pakistan, 35
- parcel method, 573, 588, 599
- parental smoking, 110, 112
- park, 19
- particle, 7, 14, 35, 60, 183
 - air pollution, 565
 - bounce, 482
 - composition, 444
 - density, 478
 - particulate, 63, 208
 - carbon analyzers, 486
 - composition, 443
 - mass concentrations, 458
 - matter, 9, 21, 22, 49, 117, 136, 202, 205
 - nitrate, 488
 - sulfur, 487
 - water content, 476
- passive samplers, 121, 122
- passive smoking, 110
- Payerne 1995/96, 604
- pedestrian, 127
 - exposure, 194
- Penicillium, 87
- pentane, 311
- peroxide reservoirs, 415
- peroxy acetyl nitrate, 286, 295, 361
- peroxy acyl nitrates, 295
- peroxy methacryloyl nitrate, 295
- peroxy nitrates, 309
- peroxy radicals, 289, 290, 393, 406
- peroxycarboxylic nitric anhydrides, 294
- personal exposure, 17, 117, 121, 145
- personal monitoring, 50, 144
- personal sampling, 121
- Philadelphia, 138
- Philippines, 35
- photoacoustic spectrometry, 465
- photochemical, 200
 - aging, 339, 346, 350
 - data, 286
 - episodes, 291, 294, 319
 - models, 339, 346, 393, 429
 - oxidants, 286
 - ozone creation potential, 308
 - ozone formation, 297
 - pollutants, 117
 - smog, 198
- photolysis, 288, 292
- photostationary state, 288
- physical exercise, 224
- phytogenic hydrocarbons, 388
- piezoelectric crystals, 460
- pinic acid, 322
- pinonaldehyde, 322
- planetary boundary layer, 285
- plume
 - dilution, 250
 - fumigation, 271
 - model, 270
 - observations, 268
- PM_{0.1}, 209
- PM₁₀, 9, 50, 75, 117, 123, 136, 137, 144, 147, 183, 194, 203, 205, 206, 208, 241
 - samplers, 494
 - standard, 494
- PM₁, 9, 136, 209
- PM_{2.5}, 9, 50, 117, 123, 136, 137, 144, 146, 183, 207, 209
 - reference method, 495
 - - sampler, 459
- poisoning, 67
- Poisson counting statistics, 454
- polar orbiting platforms, 436
- polar stratospheric cloud particles, 451
- policy, 196
- political framework, 440
- Pollak model, 453
- pollens, 60, 148
- polluted marine boundary layer, 532
- pollution
 - control strategies, 281
 - episodes, 319
 - legislation, 281
 - messenger, 656
- polychlorinated biphenyls, 282
- polychlorinated dibenzo-*p*-dioxins, 282

- polycyclic aromatic hydrocarbons, 10, 21,
60, 199, 323
- polystyrene latex spheres, 492
- Pontiac fever, 89
- population, 4
- ports, 219
- potable water, 80
- potential temperature, 634
- power plant, 343
– plumes, 249, 319, 339, 355
- preservatives, 57
- primary aerosol, 519
- primary particles, 523
- probability density function, 445
- probe inlet, 450
- profile measurements, 572, 599
- prognostic equations, 584
- prognostic mesoscale models, 621
- propane, 311
- propene, 10, 311
- propylene-equivalent carbon, 347
- protocols, 23, 95
- psychosocial factors, 93
- public health problem, 241
- public opinion, 196
- quality assurance, 121
- quality control, 121
- quartz, 210
- questionnaires, 127
- radar, 578
- radiative balance, 319, 389
- radiative forcing, 215, 245
- radio-acoustic sounding systems, 577
- radiosonde, 574, 578, 585
– data, 573
- radiosoundings, 572
- radon, 57, 60, 72, 113
– progeny, 474
- rail, 188
- ram heating, 451
- Raoult effect, 523
- real-time measurements, 485
- refractive index, 443
- refrigeration systems, 198
- regional impacts, 42
- regulation of emissions, 21
- regulatory compliance measurements, 443
- relative humidity, 444
- remote sounding
– data, 581
– systems, 575
- remote troposphere, 339, 341, 343, 359,
365
- renewable energy, 19
- residence time, 519, 525
– analysis, 641
- residential areas, 12
- resolvable scale wind vector, 635
- respirable particles, 74
- respiratory disease, 57, 196
- respiratory health, 110
- respiratory illnesses, 242
- restaurants, 127
- resuspended dust, 224
- rhinitis, 88
- Richardson number, 569, 580
- Rio Summit, 198
- risk assessment, 119
- road, 188, 191
– injury risk, 224
– traffic, 202
- rodent, 84
- RODOS preprocessor, 606
- rubber, 150
- rural areas, 354
- SADE (1993/94), 604
- Sahara Desert, 224
- Saharan dust layer, 533
- sampling pressure, 454
- San Joquin Valley, 138
- sand storms, 36
- Santiago de Chile, 40, 566
- Sao Paulo, 40
- satellite
– instruments, 436
– observations, 435
- scaling theory, 571
- scattering coefficient, 463
- sea salt, 490, 520
- secondary aerosol, 519
– formation, 443
– mass, 523
– organic, 285, 319
- secondary photochemical pollutants, 285
- sedimentation, 135
- semivolatile compounds, 444
- semivolatile organic compounds, 480

- sensory irritation, 92
 SF_6 tracer, 265
 Shanghai, 38, 242
 shipping, 188
 – emissions, 218
 – lanes, 219
 ships, 215
 shopping malls, 127
 sick building syndrome, 57, 89
 Singapore, 222
 single-particle
 – counting, 453
 – mass spectrometry, 445, 489
 Six-City Study, 76, 138, 141
 size-resolved measurements, 467
 size-selective inlets, 449, 459
 slantwise ascent, 536
 smog, 12, 36, 187, 196, 197
 – chamber, 305, 321, 323, 347, 350
 – episodes, 320
 smoke, 26, 74, 565
 – plumes, 634
 smoking, 17, 57, 64, 76, 142, 147
 sodar, 575, 576, 578, 581
 sodium, 450
 – chloride, 323
 soil dust, 520
 solvents, 57
 soot, 49, 211, 212
 – particles, 523
 source apportionment, 206, 273
 source–receptor relationships, 194, 218
 South America, 565
 Southern Hemisphere, 565
 Southern Oxidants Study, 378
 Soviet Union, 25
 space heating, 41
 spatial heterogeneity, 117, 135
 spatial variations, 134
 spirometric index scores, 112
 spores, 148
 stable boundary layer, 571, 579
 stable situations, 590
 stack, 36, 42
 – gases, 267
 stagnant events, 353
 stationary sources, 22
 stochastic process, 636
 stochastic trajectories, 628
 stratiform clouds, 537
 stratosphere, 211, 212
 stratospheric ozone depletion, 198
 stratospheric sulfate particles, 451
 streamlines, 617
 street canyon, 12, 19, 140, 202, 203
 study design, 134
 sub-urban environment, 532
 submicron particles, 451
 subsidence, 537, 573
 subsonic, 211
 sudden infant death syndrome, 112
 sulfate, 450, 520
 – speciation, 487
 sulphate, 190
 – aerosol, 208, 537
 – formation mechanisms, 266
 – formation rate, 270
 sulphur, 27, 35, 249
 – dioxide, 7, 9, 21, 22, 23, 25, 27, 49, 60,
 63, 71, 190, 197, 206, 208, 212, 249,
 305
 – emissions, 215, 217
 – oxides, 6
 sulphuric acid, 320
 sunrise, 292
 supersaturation, 456, 524
 supersonic, 211
 surface acoustic wave, 461
 surface transport, 188
 surfactants, 530
 sustainability, 53
 Switzerland, 150
t-butanol, 299
 Taipei, 140
 Taiwan, 37
 tandem differential mobility analyzer, 476
 taxi, 223
 technology, 221
 temperature
 – advection, 573
 – inversion, 537
 termolecular reaction, 255
 terpenes, 321, 350, 387
 tethered balloons, 573, 574, 578
 Thailand, 35
 The Hague, 22
 theatres, 127
 thermodynamic models, 475
 thermodynamic properties, 444

- three-way catalyst, 225
throat problems, 90
time of flight, 470
tobacco, 57, 64, 76
Tokyo, 39, 145
toluene, 81, 311
top-down approach, 192
toroidal circulations, 537
total ozone column, 436
total suspended particulates, 136
toxicity, 57, 183
tracer experiments, 632
tracer studies, 628
tracers of opportunity, 634
traffic, 19, 37, 41, 44, 63, 141, 202, 241
– congestion, 242
– emissions, 49
– intensity, 13
– reduction, 223
– rush hour, 531
train, 127
trajectory, 615
– calculations, 620
– equation, 616
– errors, 627
– models, 615
transboundary air pollution, 23
transgenic mice, 655
transmittance, 462
transport, 223
– impacts, 187
– infrastructure, 191
– sector, 187
– sources, 190
– technology, 191
trichloroethane, 81
tropospheric chemistry research, 438
tropospheric general circulation, 536
truncation errors, 622
TSP, 136, 137, 141, 147
turbulence, 203, 571
– data, 580
turbulent inertial deposition, 450
turbulent wind vector, 635
two-stroke engines, 37, 224
tyre production, 150
- UK, 218
ultra violet radiation, 212
ultrafine particles, 14, 146, 147
- ultraviolet radiation, 291
undecane, 81
United States, 22, 32
unleaded fuel, 225
updraft, 637
– velocities, 538
upper troposphere, 393
uranium-238 decay series, 73
urban
– aerosol, 136
– air pollution, 3, 23, 42, 340
– air quality, 1, 35, 39, 188, 199, 202, 226
– airsheds, 520
– chemistry, 343, 355
– environment, 531
– planning, 19
– plume, 14, 259
– travel, 6
urbanisation, 4
urbanized regions, 339
- vacuum cleaning, 141
validity, 128
– coefficient, 130
vanadium, 190
varnishes, 57
vegetation, 17, 286, 387
vehicle
– emissions, 21
– exhaust, 183, 194, 199, 210, 318
– fumes, 283
– generated particles, 186
– ownership, 242
ventilation, 63, 91
vertical wind, 625
vertically averaged wind, 626
vibrating orifice aerosol generator, 493
Vietnam, 38
virtual impactors, 449
viruses, 87
visibility, 17, 319
– impairment, 462
– trends, 463
volatile organic compounds, 10, 23, 30, 50,
 57, 63, 79, 124, 200, 281, 285, 288,
 297, 314, 339, 340, 387
– limited conditions, 307
– limited regime, 418
– reactivity, 347
– sensitive regime, 343

- voluntary action, 189
- Wageningen, 145
- Washington, 222
- water
 - content, 443
 - mass fraction, 444
 - vapour, 190, 213, 247
- West Asia, 40
- wet deposition, 216, 258, 375
- Whitby aerosol analyzer, 471
- wind field errors, 626
- wind profiles, 573
- wood, 63
 - burning, 141
- work stress, 93
- workplace, 127
- World Bank, 6, 37
- X-ray fluorescence, 487
- xylenes, 370
- Zürich, 139