

SUBJECT INDEX

A

Acidophilic cells, 15
 Age, 9, 55
 Air voids, 401
 Alumina, 447
 Aluminium alloys, 253, 335, 349
 Anisotropy, 143, 453
 Antibiotic, 215
 Area fraction, 293
 Autocorrelation, 177
 Automatic cell classifier, 75

B

B-cell of pancreas, 3
 Barium titanate, 369, 395
 Bladder irradiation, 89
 Bone, 55
 Boolean model, 143, 149, 287, 357
 Breast cancer, 69

C

Cantor dust method, 183
 Capillaries, 39
 Carbides, 287
 Carbonate rocks, 485
 Cast duplex stainless steel, 439
 Cavalieri's principle, 3, 89
 Ceramic capacitors, 369
 Ceramic films, 369
 Ceramics, 311, 381
 Cerebral microvessels, 33
 Chemotherapy, 89
 Chick, 95
 Clays, 375
 Cluster analysis, 317
 Coarsening, 287
 Color aggregation, 191
 Color discrimination, 191
 Color texture, 191
 Color vision, 191

Composite materials, 237
 Computer modelling, 299, 323, 329
 Computer simulation, 299, 329, 473
 Concrete, 363
 Confocal scanning laser
 microscopy, 447, 453
 Connective tissue, 101
 Connectivity, 55
 Contact distribution, 143
 Corrosion resistance, 439
 Covariance, 143, 149
 Cracking, 363
 Creep fracture, 253
 Crest lines, 231
 Cross-correlation function, 479

D

Dead leaves model, 287
 Dendrite, 335
 Desktop publishing, 203
 Diabetes mellitus, 43
 Diameter, 33, 39
 Differential geometry, 459
 Digital metrics, 137
 Directional mathematical
 morphology, 209
 Directional statistics, 453
 Discontinuity, 459
 Discrete contour, 491
 Disector, 63, 83, 95, 281
 Dislocation substructure, 479
 Distance function, 209
 DNA cytometry, 75
 Dual-phase steel, 433
 Duplex steel, 305

E

Edge texture indicator, 491
 Electrical properties, 395
 Enterochromaffin cell, 27
 Epithelium, 107

Eutectic, 335
Evaluating software, 479

E

Fibre, 357, 453, 479
Fibre pull-out length, 389
Fibre-matrix adhesion, 389
Filamentous microorganisms, 215
Filtering, 125
Fine turning operation, 349
Fourier analysis, 237, 305
Fractal analysis, 183
Fractals, 155, 269, 311, 427
Fractography, 253
Fracturation, 177
Fracture surface, 427

G

Gamma-ray, 9
Geodesic distance, 137
Glomerulus, 63
Grain growth, 277, 281, 317
Grain shape, 317, 473
Grain size, 281, 299, 317, 323, 381, 395, 473
Grains, 277
Granulometry, 369
Granulomorphy, 369
Granulosa cells of ovarium, 83
Growth hormone, 3, 15
Growth monitoring, 215

H

Hack-Mandelbrot, 269
Heterogeneous materials, 169
Homogeneity, 149

I

Image analysis, 75, 155, 177, 191, 197, 203, 215, 231, 311, 323, 401

Image processing, 125, 183, 221, 237

Image segmentation, 499
Image transformations, 203
Impact energy, 427
Impact fracture, 427
Impact toughness, 439
Integral length scale, 221

K

Kidney, 63

L

Leaf anatomy, 467
Length density, 33, 39
Length distribution, 357
Linear granulometry, 375
Liquid phase sintering, 287
Liver, 101
Local methods, 499
Local pyramid, 499

M

Mathematical modelling, 395
Mathematical morphology, 125 357, 375
Measurement bias, 357
Mechanical testing, 363
Mesonefros, 95
Mesophyll, 115
Metal matrix composites, 253,
Microcracks, 253
Microstructural changes, 439
Microstructure, 335, 381, 395, 427
Minkowski dimension, 155
Modelling, 161
Models, 125
Morphological parameters, 343
Morphological transformations, 155
Multifractal, 169
Multiscaling, 169

N

Non-planar surfaces, 155, 161
 Non-metallic inclusions, 343
 Nuclear cytoplasmic ratio, 107
 Nuclear volume, 69
 Nucleator, 49, 83

O

Open system, 227
 Orientation, 177, 485
 Orientator, 95
 Ovarian follicle, 83
 Oviduct, 107

P

Pancreas, 3
 Parameter estimation, 245
 Particles shape, 305
 Partzicle size, 293
 Pinealectomy, 21
 Pituitary gland, 15
 Placenta, 43
 Plastic deformation, 277
 Plastic deformation effect, 473
 Plastic working, 329
 Point sampled intercept, 49, 281
 Polycrystal, 323
 Pores, 447
 Powder, 369
 Pretopology, 231
 Prior cold working, 433
 Probabilistic models, 287
 Probability distribution function, 389
 Prognosis, 69
 Propagation function, 137
 Prostaglandin E₂, 27
 Proton radiation, 33
 Proximal tubule dilatation, 95
 Pull out, 363

Q

Quality control, 237
 Quantitative metallography, 293,
 329, 343, 409, 433

R

Radiation, 9
 Range image, 459
 Rat, 21, 101
 Recrystallization, 253, 277
 Reinforcement efficiency, 363
 Relief, 161
 Resolution, 293
 Reverse sigmoidal fractal curves,
 269
 Richardson-Mandelbrot, 269
 Rose of directions, 237
 Roughness, 155

S

Scale, 491
 Season, 21
 Segmentation, 125, 209, 459
 Selector, 49
 SEM image, 161
 Semi-automatic image analyser, 227
 Sertoli cell nuclei, 49
 Sex, 55
 Shade ecotypes, 467
 Short fibre composite, 389
 Sintering, 149, 253, 369 375, 381,
 395
 Small intestine, 27
 Small-angle scattering, 311
 Smoothing, 491
 Software, 203
 Solanum dulcamara L., 467
 Solid tumors, 75
 Solidification, 335

Somatostatin, 27
 Space-filling grains, 281
 Spacing, 177
 Spatial distribution, 447
 Spatial Poisson-Veronoi tessellation,
 245
 Statistical images, 125
 Steel, 143
 Steel quality control, 409
 Stochastic geometry, 453
 Stomata, 115
 Straight line envelope, 491
 Structural changes, 349
 Structural parameters, 177
 Sun ecotypes, 467
 Surface area, 39, 161

I

Texture, 485, 499
 Thioacetamide, 101
 Three dimensional reconstruction,
 401
 Thyroid gland, 9, 21
 Time-frequency distribution, 221

Tomkeieff, 269
 Tools alloys, 329
 Topology, 281
 Trabeculae, 55
 Transfer function, 161
 Transgenic mouse, 3, 15

V

Vascularization, 43
 Vertical sections, 115
 Vertical slices, 33
 Volume estimation, 33, 89, 197

W

Watershed, 209
 WC-Co cermets, 209
 Windows, 203
 Wire orientation, 363

Z

Zinc sulphate, 101