

Subject Index

A

ABAQUS, 33, 61
 Aluminum alloy, 206, 369
 Anodic film, 369
 Asymptotic analysis, 145
 Austenitic stainless steel, 169

B

Backup roll, 434
 Block loading, 235
 Boundary element method, 76

C

Cables, 3
 Coefficient of friction, 183, 273, 369
 Complete contacts, 145
 Concavity, 169
 Confocal microscopy, 44
 Contact edge, overhanging, 434
 Contact material conditions, 291
 Contact pad geometry, 220
 Contact pressure, 169
 distribution, 220
 Contact stress, 273
 Corrosion, 403
 Crack angle orientation, 338
 Crack branching, 206
 Cracking resistance, 369
 Crack initiation, 61, 159, 206, 338, 423
 Crack nucleation, 3, 17, 89, 145, 251, 273, 307
 Crack propagation, 61, 206, 251
 Crack transition, fretting damage, 44
 Critical intensity range of stresssingularity, 423
 Critical plane approaches, 89
 Critical plane parameters, 338
 Crystallographic slip, 183
 Crystal plasticity, 183

D

Damage threshold, 44
 Dissipated energy, 17
 Dovetail, 423

E

Electrical conductor cables, 403

F

Failure analysis, 434
 Fatigue, 369
 Fatigue damage, 403
 Fatigue life, 61, 121, 169, 423
 Fatigue limit, 159
 Fatigue strength, 159, 385
 Finite element analysis, 33, 61, 89, 220, 338
 Flat-on-flat contact, 307
 Fractography, 403
 Fretting, quantifying, 17
 Fretting conditions, 206
 Fretting contact, 273
 Fretting damage, 44, 89, 183, 307
 Fretting fatigue failure, 434
 Fretting fatigue process volume, 89
 Fretting map, 17
 Fretting wear, 3, 17, 323, 385, 403
 Friction, 251, 273

G

Gas turbine engines, 108, 251, 273, 307, 423
 Green's function, 76

H

Hertzian contact geometry, 133
 Hertzian fretting fatigue, 108
 High cycle fatigue, 108, 251
 High frequency, 251
 High strength steel, 220
 High stress gradients, 133
 High temperature, 273, 323
 High velocity oxygen fuel, 385

I

Initiation life, 133
 Initiation-propagation model, 121
 In-situ observation, 33, 369
 Interfacial adhesive bonds, 323

K

Knurling, 159

L

Life prediction, 121, 133, 251, 273, 307, 423

Low cycle fatigue, 108, 251
Lubricating anodic film, 369

M

Maximum tangential stress theory, 61
Mean stress, 353
Metallography, 403
Metrics, 44
Miner's law, 235
Modified Goodman diagram, 353
Multiaxial fatigue criterion, 121
 Multiaxial fatigue parameters, 133

N

Nickel-base superalloy, 323
NiCrMo steel, 385
Nonhomogeneous material, 183
Non-propagating cracks, 353
Notch analogue, 108
Notch effect, 169

O

Oblique crack, 76
Oil film bearings, 434
Overhead electrical conductors, 403
Overloads, 235

P

Paris law, 121
Partial slip regime, 206
Plain fatigue, 369
Principle of superposition, 76
Propagation curve, 61

R

Relative slip, 33, 220
Roller bearings, 434

S

Scanning electron microscopy, 33, 307

Shrink-fitted axle, 434
Simulation, 61
Single crystal nickel, 273
Size effect, 17
Sliding condition, 17
Slip amplitude, 323
Spray, 385
Steel cables, 3
Steel making rolling mill, 434
Stick/slip, 183
Strain gauge measurement, 220
Stress concentration, 108, 133
Stress intensity factor, 76, 145
 range, 61
Stress invariant equivalent stress life model, 251
Stress ratio, 353
Stress-release slit, 159
Stress singularity, 423
Stress singularity parameters, 159
Surface damage, 108
Surface hardness, 369
Surface rolling, 434
Surface treatments, 291

T

Tangential force coefficient, 369, 385
Threshold stress intensity factor range, 159
Titanium alloy, 291, 307, 323, 338, 353
Tungsten carbide, 385
Two-stage test, 220

U

Ultra high cycle, 353

V

Variable amplitude loading, 235

W

WC-Co coating, 385
Wind vibration, 403
Wire ropes, 3