

Subject Index

A

AASHTO standards, 202
Accelerometers, 360
Anisotropy index, 118
Artificial neural networks, 101
ASTM standards
 D 3441: 3
 torsional shear test
 development, 276
Attenuation, 73

B

Backfill, mine, 360
Bedding error, 288
Bender elements, 165
Blast damage, 360
Blasting sand, 202
Borehole installation, 134
Boundary effects, 346
Bulk stress, 202

C

Calibration chamber, 24
Centrifuge models, 360, 370, 400
 dynamic, 346
Centrifuge testing, 330
 dynamic, 305
 dynamic modelling, 346
 earthquake, 370
 Rayleigh wave simulation, 385
Clays
 consolidation, 330
 dependent shear, 330
 frequency effects on, 191
 material properties, 134

Compression, secondary, 330
Compression wave velocity, 24
Cone penetration tests
 D 3441: 3
Confining pressure, effective, 222
Confining stress, effective, 261
Constrained modulus, 24
Crosshole configuration, 58

Crosshole method, 234
Cyclic deviator stresses, 246
Cyclic simple shear, 165
Cyclic testing, 276
Cyclic torsional shear, 165
Cyclic triaxial tests
 loading, 288
 undrained, 246

D

Damping, 3, 73, 134, 288, 385
 ratio, 191, 222
Deformation properties, 246, 288
Deviator stresses, cyclic, 246
Dispersion curve, 88
Drop-ball arrangement, 385

E

Earthquake (See also Sesmic),
 134, 305
 centrifuge modelling, 370
 vibrations, 346, 360
Elastic deformation properties,
 288

F

Formation factor, 118
Freestanding Torsional Shear
 device, 134
Frequency effects, 191

G

Geophones, 88
 embedded, 24
Gravels, 261, 288

L

Laminar box, 370
Layer thickness, determining, 39
Liquefaction, 118, 370, 400
 gravelly soils, 261
 sand, 246

Loading tests, 330
 earthquake, 346
 monotonic triaxial, 288
L
 Load, repeated, 246
 Louisiana Transportation Research Center, 202

M
 Membrane compliance, 261
 Mine backfill, 360
Modelling
 accelerated, 360
 centrifuge, 360, 370,
 400
 dynamic centrifuge, 346
Monotonic testing, 261, 276
 Nongranular materials, 234

O
 Ottawa sand, 222

P
 Pavement materials, 234
 Pavement subgrade, 24
 Penetrometer, 73
 Phase velocity, 73
 Piezocone, seismic, 73
 Piezoelectric wafers, 58
 Pore pressure, 261
 response, 191

R
 Rayleigh waves, 39, 385
 Ray paths, 101
 Resilient modulus, 202, 234
 Resonant column, 165, 191, 222,
 234
Rock
 crosshole SH-waves, 58
 undrained testing, 261

S

Sands, 370
 dynamic centrifuge tests, 346
 Ottawa, 222
 resilient modulus, 202
 tailings, 360
 Toyoura, 246
 triaxial tests, 288
SASW testing, 39
 Scaling laws, 330
 Scholte wave, 39
 Seismic cone, damping with, 3
 Seismic mitigation, 385
 Seismic piezocone, 73
 Seismic tests, 3
 Seismic travel time, 101
 Seismic velocity, 58
 Seismic vibrations
 stability under, 360
Shear
 box, 370
 modulus, 24, 39, 118, 191,
 222, 385
 simple, 165
 strength, 330
 stresses, 346
 torsional, 165
 waves, 73
 horizontally polarized, 58
 velocity, 3, 24, 88
 Solenoid source, 58
 Spectral analysis, 88
 Spectral-Analysis-of-Surface-Waves, 39
 Spectral ratio, 73
 Standards
 dynamic centrifuge
 modelling, 400
Guide for Design of Pavement Structures, 202
 Stiffness measurements, 24, 39
 Stiffness values, 288
 Strain gage, 288, 346
 Strain level, 3, 134
 Strain rate, 330
 Stress conditions, 276
 Stress, effective, 261
 Stress, shear, 346
 Stress ratio, 118
 Surface waves, 88

T

Tomography, 101
Torsional shear, 165, 191, 234,
 276
 freestanding, 134
Toyoura sand, 246
Transducers, 276
 dynamic stress, 360
Triaxial tests, 330
 compression, 288
 cyclic loading, 288
 cyclic undrained, 246

U

Undrained testing
 cyclic triaxial, 246, 261
 monotonic, 261

V

VELACS Project, 400
Volumetric compliance,
 261

W

Wave propagation, 370,
 385
 tests, 165
Wave velocity
 compression, 24
 shear, 3, 24