Subject Index

A

Active Library on Corrosion, 153
ADP2, 64
Air Force analytical design package, 64
Alloys, cast copper, 235
Artificial intelligence, 183
ASTM E 1308, 33

B

Backpropagation, 211

C

CASAC-ANA, 235
Ceramics
  advanced structural, material selector expert system, 127
  database and knowledge acquisition, 224
Chemical exposure, effect on material property degradation, 33
Chemical-material compatibility database, 33
Civil engineering, composite material property data modeling, 110
Composite materials, property data modeling, 110
Computer aided engineering, 64
Conceptual modeling, 110
CONNAISSANCE, 153
Corporate information bank, materials data, 171
Corrosion, 136, 211
  analysis, 153
  role in material selector expert system, 127
Crack growth, 194
Creep, 9, 194

D

Data
  experimental, 20
  large volumes, 20
  management, 20
  modeling, 20
  processing needs, 9
  reduction, 64
  selection, 211
Data analysis
  CASAC-ANA, 235
  models, 9
Database management systems, 253
Data systems, 211, 224, 235
Degrees of freedom, 33
Design allowable materials, 33
Development guidelines, neural networks, 211

E

Entity-relationship diagrams, 110
Expert systems, 224, 253
  material selector, advanced structural ceramics, 127

F

Failure analysis reports, 171
Fatigue, 9
Fracture toughness, 194
Frameless transparency program, 64

H

Heat exchangers, 127
High-temperature environments, advanced structural ceramics, 127
Hypermedia systems, 153, 253
Hypertext, 153
Hysteresis, 85

I

Injection molding, 64
Inventory, 9

K

Knowledge acquisition, 224
Knowledge base, 127, 136, 183, 224
Knowledge elicitation shell, 136

L

Life assessment, 136, 194
  computerized, 194

M

Martensitic transformation, 85
Material aging, 194
Material damage, 194
Material properties, 64
Material property databases, 183, 211, 235, 253
  ceramics, 224
Material property prediction, CASAC-ANA, 235
Materials data, 253
  analysis, neural networks, 211
  ceramics, 224
  corporate information bank, 171
  data processing needs, 9
Materials data server, 64
Materials design, ceramics, 224
Material selection/deselection, integration, 33
Materials engineering, hypermedia systems, 153
Materials property
  data, 153
  relationships, 194
Modeling
  complex, 20
  material properties, 20, 194
Multimedia, 253

N

Neural networks, 211, 224, 253

O

Object-oriented databases, 183, 253

P

Pavement
  management applications, 96
  materials property databases, 96
Pedigree approval agencies, 33
Plastics, fiber-reinforced, 110
Preprocessing, 211
Property database
  advanced structural ceramics, 127
  shape memory alloys, 85
Property data modeling, composite materials, 110
Property prediction, 224

Q

Quality function deployment, 33

R

Reasoning, case-based, 253
Recovery, 85
Relational databases, 64, 253
Remote procedures, 64

S

Shape memory, effect, 85
Shape memory alloys, property database, 85
Software
  CASAC-ANA, 235
  commercially available, 171
Space transportation main engine, database standardization, 33
Spreadsheets, 64
Standards, space transportation main engine database, 33
Strategic Highway Research Program, 96
Stress corrosion cracking, 136
Superalloys, nickel-base, 235
Superconductors, high-temperature, 9
Surface chemical analysis, 9

T

Test methodology, integration, 33
Test reports, computerized, 33
Textile composites, 110

U

Users, matching information technologies with, 253

V

VAMAS, 9
Virtual reality, 253

Y

Young's modulus, 96