

Author Index

A

Adams MJ, 229
Adkins JE, 76
Adrian RJ, 120
Agassant J-F, 190
Ahmadi GA, 212, 224, 227
Ahn KH, 98, 99, 105–107
Al-Sharif A, 68
Anderson TB, 73
Antman, 223
Antony SJ, 221
Armstrong RC, 32, 175, 188, 189
Ashraf Ali B, 125
Astarita T, 230
Atkin RJ, 68
Aziz K, 10

B

Babcock HP, 165, 167
Baek S, 231
Bagnold RA, 230
Baik ES, 106, 107
Bale R, 144
Ballerini M, 197
Barbosa-Canovas GV, 10
Barnea E, 68
Barnes HA, 12–15, 18, 174, 179, 180, 184–187
Barrer RM, 68
Bashir YM, 15
Baskaran A, 199–201, 203, 212, 216
Basset AB, 73
Batchelor G, 68
Batchelor GK, 134
Batra RC, 223, 229
Baumgaertel M, 93

Bazant MZ, 216
Bazazi S, 198
Bedford A, 68
Behringer RP, 221
Ben-Jacob E, 193, 197, 199
Berg HC, 200
Beris AN, 19
Bershadsky A, 198
Bingham EC, 229, 230
Biot MA, 68
Bird RB, 13, 32, 36, 88, 104, 175, 188, 189
Birshtein TM, 151, 152
Blinowski A, 227
Bloor D, 95
Blythe T, 95
Boersma WH, 15
Borisy GG, 198
Bousmina M, 105
Boussinesq J, 68
Bowen RM, 68, 71, 75, 76, 79
Boyle EJ, 221, 227
Branes HA, 35
Braun RL, 231
Bray D, 198
Brenner H, 68
Brinkman HC, 68
Briscoe BJ, 229
Brochard F, 138
Brodnyan JG, 68
Brown RL, 220
Buhl J, 198
Burgers JM, 68

C

Cabibbo N, 197
Candelier R, 197

Carbonell RG, 224
 Carlier MF, 198
 Carotenuto C, 104, 105
 Carreau PJ, 10
 Caswell B, 229
 Cates ME, 216
 Cawkwell MG, 20
 Chamniprasart K, 68
 Chandrasekhar S, 136, 154
 Chapman S, 221
 Charles ME, 20
 Chatkaew L, 196
 Cherayil BJ, 165–167
 Chhabra RP, 4, 10, 28, 30
 Chomaz JM, 140
 Chu S, 165, 167
 Cisneros L, 196
 Clegg DW, 104, 105
 Colby RH, 152, 157, 159, 178
 Collins IF, 222, 223
 Collyer AA, 104, 105
 Coussot P, 32, 223
 Couzin ID, 198
 Cowin SC, 230
 Cowling TG, 221
 Craig RE, 73
 Craik ADD, 132
 Craine RE, 68, 76
 Cross MM, 12
 Curtiss CF, 188, 189
 Czirk A, 193, 197, 199

D

Dai GC, 13
 Darcy H, 68
 de Gennes PG, 63, 138, 152, 157, 159, 165,
 204, 205, 207, 208, 221
 De Kee D, 10, 230
 De Rosa ME, 93
 Dealy JM, 181–183, 186, 190
 Deshpande AP, 91, 98, 107, 108
 Dewald U, 198
 Ding Y, 221
 Doi M, 152, 156, 157, 164
 Dombrowski C, 196
 Dotsch T, 107
 Drazin PG, 135
 Drumheller DS, 68
 Dua A, 165–167
 Dullaert K, 19, 20
 Duran J, 221

E

Eberhardt M, 198
 Eckhardt B, 137, 145
 Edwards SF, 152, 156, 157, 164
 Ehrentraut H, 224
 Einstein A, 68
 Elaskar SA, 230
 Ewoldt RH, 99, 100, 102–106

F

Fan LS, 220
 Fang C, 224
 Farrell BF, 143
 Feller W, 162
 Feynman RP, 156
 Fick A, 68
 Fleury G, 97, 104, 106
 Flory PJ, 151, 152, 157
 Freed K, 152, 155–158, 161
 Friedman B, 144
 Fuchs HU, 233

G

Gallegos C, 90, 91, 93
 Garcia DJ, 79
 Geiger B, 198
 Gidaspow D, 220
 Giomi L, 213
 Goddard JD, 15, 230
 Godoy LA, 230
 Goldhirsch I, 221
 Goodwin JW, 31
 Govier GW, 10
 Govindarajan R, 144
 Graessley WW, 32
 Graessley WW, 30
 Green AE, 76
 Green H, 229
 Green JT, 68
 Greenhill AG, 73
 Greve R, 224
 Grmela M, 105
 Groisman A, 146
 Grossman S, 137
 Grosso M, 104, 105
 Gruler H, 198
 Gudhe R, 235
 Guerrero A, 90, 91, 93
 Guo J, 14
 Gupta G, 231
 Gutt GM, 228

H

Hadnard JS, 68
 Haff PK, 228, 230
 Hale, 198
 Han CD , 30
 Hanes DM, 228
 Happel M, 73
 Harini M, 91, 98, 107, 108
 Harris RA, 161
 Hashitsume N, 162
 Hassager O, 32, 175
 Hatschek E, 68
 Hatwalne Y, 209, 212
 Hearst JE , 161
 Hermann HJ , 221
 Hessel V, 120
 Hibbs AR, 156
 Hinsch K, 118, 119
 Ho CM, 139
 Hof B, 145
 Hosoi AE, 99, 100, 102–106
 Houlsby GT, 222
 Houska M, 20
 Hoyle W, 221
 Huerre P, 139
 Hughes RW, 31
 Hui K, 228
 Hur JS, 165, 167
 Hutter K, 221, 224, 233
 Hutton JF, 12, 13, 35, 174, 186, 187
 Hyun K, 98, 99, 103, 105–107

I

Ibarz A, 10
 Ioannou PJ, 143
 Isayev AI, 21
 Ito K, 156
 Iwata K, 163

J

Jackson R, 73, 220, 229
 Jaeger HM, 221
 Jeffery GB, 68
 Jeffrey DJ, 232
 Jeffrey RG, 224
 Ji X, 17
 Joanny JF, 213
 Johnson G, 73
 Johnson PC, 229
 Jones DM, 26
 Julicher F, 213, 215
 Jyotsna R, 229

K

Kadanoff L, 163
 Kalelkar C, 106
 Kalman H, 220
 Kamble S, 106
 Kamjab M, 229
 Kanatani KI, 227
 Karsenti E, 196
 Katz D, 19
 Kaviyani M, 231
 Keane RD, 120
 Kesava, 220, 221
 Kesava Rao K, 229
 Khomami B, 105
 Kim S, 224
 Kim S-I, 98
 Kim SH, 98, 99
 Kim YD, 230
 Kirchoff G, 73
 Klausner Y, 221
 Klinzing GE, 220
 Kompenhans J, 115
 Kozlov M, 198
 Kroger M, 32
 Kruse K, 213, 215
 Kubo R, 162
 Kulicke WM, 22
 Kurata M, 68

L

L'Hote D, 95
 Lacoste D, 216
 Ladieu F, 95
 Lagowski JB, 162
 Lamb H, 73
 Landahl MT, 143
 Langevin P, 162
 Larson RG, 30, 88, 104, 181–184, 189, 190
 Lau AWC, 212
 Laven J, 15
 Lavison, 118, 119
 Lee D, 68
 Lele A, 106
 Leung LS, 220
 Li X, 94, 104
 Lightfoot EN, 36
 Lighthill MJ, 132
 Lindzen RS, 139
 Liu IS, 222
 Liverpool TB, 212, 213
 Lohse D, 137
 Loret B, 224

Lu SY, 224

Lubensky T, 212

Lubensky TC, 207, 208

Luding S, 221

Lugt HJ, 228

M

Müller I, 222

Ma SK, 162

Machado J, 93

Macosko CW, 24, 32, 183

Maffettone PL, 104, 105

Maggs AC, 196

Mai YW, 224

Makris NC, 197

Malek J, 75, 76, 79, 81

Malkin AY, 21, 94

Mandelbrot B, 155

Marchetti MC, 199–201, 203, 212, 213,
216

Marcus RD, 220

Marcy Y, 198

Marenduzzo D, 216

Maring D, 100

Martin H, 224

Martin P, 163

Massoudi M, 68, 73, 220, 221, 223–225,
227, 229–231, 233–235

Maugin GA, 223

McKean HP, 156

McKinley GH, 99, 100, 102–106

McNamara S, 220

McQuarrie DA, 227

McTigue DF, 230

Mehrabadi MM, 224, 229, 231

Mehta A, 221

Menon GI, 216

Menon N, 196

Metzner AB, 15, 19

Mewis J, 19, 20

Mills N, 76

Mizrahi J, 68

Monkewitz PA, 139

Mooney MJ, 68

Morozov AN, 146

Morrison FA, 32

Mortensen RE, 156

Mours M, 93

Muhuri S, 212

Mujumdar A, 19

Muller R, 97, 104, 106

Munaf DR, 68

Muncaster RG, 227

N

Na TY, 234

Nagel SR, 221

Naghdi PM, 76

Nam JG, 105

Narayanan V, 196

Narumi T, 97–100, 105

Nedderman RM, 221

Nedelec FJ, 196

Nemat-Nasser S, 224

Nguyen QD, 16, 17

Nickel B, 162

Noll W, 222, 225, 226, 229

Noolandi J, 162

Nott PR, 220, 221

Nozad I, 224

O

Ocone R, 230

Oda M, 224

Ogawa S, 227

Oldroyd JC, 68

Orlandini E, 216

Ortseifer M, 102, 104

Oshima N, 227

Owens RG, 32

Oxford Dictionary, 67

P

Pagonabarraga I, 216

Partial P, 90, 91, 93

Passman SL, 219

Pearson K, 154

Perkins TT, 165

Peters WC, 219

Phillips TN, 32

Phuoc TX, 220, 233

Piau J-M, 190

Plasynski SI, 219

Pollard M, 107

Prager W, 229

Prakash JR, 229

Prausnitz JM, 4

Prost J, 198, 204, 205, 207, 208, 213, 215

Prost-Domasky SA, 105

Ptitsyn OB, 151, 152

Purcell EM, 200

Pushpavanam S, 125

Q

Quemada O, 68

Quere D, 138

R

Rafelski SM, 198
 Raffle M, 115
 Rajagopal KR, 68, 73, 75, 76, 78, 79, 81, 220, 221, 223, 225, 230, 231, 233–235
 Ramachandran S, 216
 Ramaswamy S, 194–197, 199, 200, 209, 211, 212
 Ranade VV, 220
 Rao K, 220, 221
 Rao M, 194, 195, 199, 200, 209, 212
 Ratilal P, 197
 Ravindranath S, 106
 Rayleigh JWS, 73
 Reid RC, 4
 Reiner M, 229
 Reinheimer P, 102, 104
 Renken A, 120
 Reynolds O, 229
 Richards JC, 220
 Richardson JF, 4, 30
 Rivlin RS, 229
 Rossi M, 139
 Rouse PE, 163
 Rubenstein M, 152, 157, 159, 178
 Ryzczynski W, 68
 Ryu WS, 200

S

Saintillan D, 216
 Saito N, 161
 Saldanha da Gama RM, 235
 Saltzer WD, 68
 Samohyl I, 68, 71
 Sampaio R, 76, 79
 Savage SB, 221, 228, 230
 Sayed M, 228
 Schaeffer DG, 230
 Schlatter G, 97, 104, 106
 Schneider TM, 145
 Schot JW, 228
 Schotte W, 224
 Schouten JC, 120
 Schulman LS, 156
 Schulz B, 68
 See H, 97–100, 105
 Seitz F, 68
 Shaqfeh ESG, 146, 165, 167
 Shelley MJ, 216
 Sherwood TK, 4
 Shih W-H, 98
 Shih WY, 98
 Simha R, 68

Simha RA, 194, 195, 197, 209, 211, 212
 Siva Kumar Ch, 125
 Smith DE, 165, 167
 Soo SL, 220
 Spencer AJM, 224, 230
 Spiess H-W, 100
 Sridhar T, 27
 Srinivasa AR, 78, 79, 223, 231
 Sriram S, 107, 108
 Stark H, 207, 208
 Steffe JF, 14, 21
 Steg I, 19
 Stein HN, 15
 Steinberg V, 146
 Stepanoff AJ, 240
 Stewart WE, 36
 Stockmayer WH, 163
 Stokes GG, 73
 Straughan B, 224
 Struble LJ, 17
 Stuart S, 223
 Sumpter DJT, 198
 Sunil Kumar PB, 216
 Surrey T, 196
 Suzuki A, 97–100, 105
 Svitkina TM, 198
 Symonds DT, 197
 Szeri AZ, 68, 233
 Szidarovszky F, 233

T

Tait PG, 73
 Takahashi K, 161
 Talu I, 220
 Tamura M, 68
 Tanner RI, 3, 32, 190
 Tao L, 68, 75, 76, 78, 220
 Tardos GI, 220, 230
 Tattersen GB, 125
 Taylor GI, 68
 Theriot JA, 198
 Thibierge C, 95
 Thomson W, 73
 Tirtaatmadja V, 27
 Toda M, 162
 Toner J, 194, 195, 197, 199, 212
 Torquato S, 224
 Trouton FT, 26
 Troy WC, 223, 231, 233, 235
 Truesdell C, 68, 222, 225–227, 229, 232
 Tsotsas E, 224
 Tu Y, 194, 195, 197, 199, 212
 Turner L, 200

U

Uhlherr PHT, 14, 16, 17
Umemura A, 227
Unger JE, 228

V

van Doorne CWH, 145
van Saarloos W, 146
Verdier PH, 163
Verkhovsky AB, 198
Vicsek T, 193, 197, 199
Volkenstein MV, 151, 152

W

Waleffe F, 145
Wallbaum U, 22
Walters K, 3, 12, 13, 26, 32, 35, 174, 186,
187, 190
Walton OR, 231
Wang P, 105
Wang S-Q, 94, 104, 106
Wang X, 94, 104
Wang Y, 224
Wehrli C, 78
Westerweel J, 118, 119, 127, 145

Whitaker S, 224
Whitlock M, 15
Wilhelm M, 100, 102–104, 107
Willert, 115
Williams PR, 26
Williams WO, 76, 79
Wineman AS, 68, 223, 231
Winter HH, 93

Y

Yakowitz S, 233
Yalamanchili RC, 231
Yamakawa H, 152
Yarusso BJ, 13
Yu W, 105
Yunoki Y, 161

Z

Zhang X, 224
Zhang XM, 14
Zhou C, 105
Zhu C, 220
Zhu H, 230
Ziegler H, 78, 222, 230
Zimm BH, 163, 164

Subject Index

A

- absolute instabilities, 139
- absolute temperature, 75
- active fluids, 193
- active gels, 213
- active matter, 193, 194
 - ants and locusts, 198
 - bird flocks, 197
 - Bacterial suspensions, 196
 - cell crawling, 198
 - fish schools, 197
 - hydrodynamic approach, 205
 - Listeria monocytogenes* Motility, 198
 - vibrated granular rods, 196
- active orientational order, 209
- advection, 141
- aliasing, 113
- alternator tensor, 73
- avalanches, 232

B

- balance of angular momentum, 73
- balance of energy, 74
- balance of linear momentum, 72
- balance of mass, 71
- bead and spring, 163
- bending energy, 161
- Bingham model, 13
- blobs, 159
- body force, 74
- branched polymer melts, 106
- Burgers' model, 27, 46

C

- calibration, 129
- Casson model, 13

- catalytic and thermal cracking, 219
- CCD cameras, 115
- Chemically Reactive Flow Regime, 220
- Clausius–Duhem inequality, 75, 223
- coal gasification, 219
- combustion, 219
- complex modulus, 89
- complex viscosity, 24
- compressible fluid models, 82
- Computational Fluid Dynamics, 37, 128
- conformation, 151
- conservation of linear momentum, 58, 222
- conservation of mass, 56, 222
- constitutive models, 104
- continuity equation, 135
- continuous chains, 155
- convective instabilities, 139
- Cosserat theories, 224
- coupled pendulum, 132
- creep, 21
- cross correlation, 116
- crosslinking polymer, 90
- crossover, 89
 - crossover frequency, 90

D

- Darcy's law, 68
- Deborah number, 27, 95, 177
- density, 37
- density gradients, 77
- die swell, 175
- differential type, 226
- diffusion, 68
- dilute solution, 173
- Dirichlet conditions, 78
- dispersion, 4
 - flow, 29
 - rest, 29

double frame, 119
 drag, 80
 drag reduction, 176
 dynamic, 177

E

elastic elements, 44
 elastic modulus, 180
 elongational flow, 24
 elongational flow viscosity, 186
 emulsions, 4, 68, 90
 end-to-end vector, 157
 entanglements, 173
 Escherichia coli, 200
 extensional viscosity, 26

F

FENE, 166
 FENE-P, 105
 fiber spinning, 24
 Fick's law, 68
 flexible chain, 161
 flocking model, 199
 Flory's characteristic ratio, 153
 flow stability, 131
 flow viscosity, 184
 flow visualization, 111
 fluid friction, 36
 fluidization, 219
 fluorescence microscope, 200
 foams, 4
 Fourier series, 101
 Fourier transform, 101, 119
 Fourier's law of conduction, 231
 frame rate, 129
 frame-indifference, 73
 Frank constant approximation, 204
 frequency spectrum, 100

G

Galilean invariance, 73
 Gaussian chain, 154
 gel, 100
 generalized Kelvin model, 46
 generalized Maxwell model, 46
 generalized Newtonian fluids, 8
 Gibbs potential, 79
 Giesekus, 105
 Ginzburg-Landau functional, 204
 Girard, 78
 good solvent, 158

granular materials, 220
 flow behaviour
 grain-inertia, 230
 macro-viscous, 230
 transitional, 230
 conservation of angular momentum, 222
 conservation of energy, 222
 continuum theories, 221
 dense flow, 221
 dilute flow, 221
 glaciology, 221
 governing equations, 222
 kinetic theory of gases, 227
 non-Newtonian fluid models, 220
 normal stress differences, 229
 slip flow, 229
 soil mechanics, 221
 statistical theories, 221
 thermal conductivity, 231
 viscometric flow, 232
 yield criterion, 229
 Mohr-Coulomb, 229
 granular temperature, 228

H

heat exchangers, 219
 heat flux, 74
 Helmholtz potential, 79
 Herschel-Bulkley model, 13
 higher modulus, 104
 Hooke's law, 165
 hydraulic transport, 220
 hydrodynamic centre, 202
 hydrodynamic interaction, 164
 hydrodynamic stability, 132
 hyperelasticity, 78

I

image shift, 120
 incompressible flow, 135
 incompressible fluid models, 82
 instabilities, 133
 integral type, 226
 intensities of higher harmonics, 103
 interdiffusion, 68
 internal gravity waves, 132

J

Jeffrey's model, 45

K

Kelvin model, 44
 Kelvin-Helmholtz instability, 134

Kelvin-Voigt model, 27
 kinematics, 49, 176
 Eulerian, 49
 Lagrangian, 49

L

Large Amplitude Oscillatory Shear, 95, 96
 Leonov, 105
 linear response, 94
 linearly viscous fluid, 77
 Lissajous plots, 89
 living polymer, 184
 Lodge rubber-like liquid, 105
 loss modulus, 47, 88, 213

M

macromolecule, 29
 Marrucci, 105
 material functions, 102
 Maxwell, 75
 Maxwell model, 27, 44, 45, 88, 213
 mean square end-to-end distance, 153
 mean square radius of gyration, 157
 median filter, 122
 melting, 78
 micropolar fluids, 227
 Mie scattering, 112
 mixtures, 67
 co-occupancy, 69
 constitutive relations, 76, 78
 energy flux, 74
 interactions
 Basset forces, 73
 drag, 73
 Faxen forces, 73
 lift, 73
 Magnus effect, 73
 partial stress, 72, 82
 simple fluid, 75
 thermomechanics, 68, 76
 total stress, 82
 volume additivity constraint, 76
 molecular weight, 178
 mudslides, 232
 multi-pass processing, 124
 multiple swimmers, 203

N

natural configuration, 79
 Navier, 78
 Navier–Stokes equations, 207

Navier-Stokes fluids, 77
 Navier-Stokes equations, 134
 nematic fluid, 207
 nematics, 204
 active, 212
 uniaxial, 205
 Neumann conditions, 78
 neutrally buoyant, 126
 Newton's second law, 132
 Newtonian fluids, 4
 corn syrup, 5
 non-modal instability, 140
 non-Newtonian, 77
 non-Newtonian fluids, 2, 38
 shear rate dependence, 42
 examples, 5
 normal stress differences, 42
 polymeric liquids, 42
 shear thickening, 42
 shear thinning, 42
 suspensions, 42
 time effect, 42
 nonlinear response, 94
 nonnormality, 143
 normal stress, 135, 184
 normal stress difference, 6, 22

O

Oldroyd-B model, 105
 Onsager relation, 215
 optical filters, 114
 Orr mechanism, 141
 oscillatory response, 180
 oscillatory shear, 23
 Oseen tensor, 202
 overlap, 122

P

packed bed reactors, 224
 partial stress, 77
 Particle Image Velocimetry, 111
 particle suspensions, 68
 permittivity, 95
 persistence length, 160
 perturbation, 135
 Phan Thien Tanner, 105
 phase differences, 97
 phase transition, 195
 Pipkin diagram, 95
 plasticity, 78
 plateau, 90
 pneumatic transport, 220

- Poisson, 78
 polymer
 bead-spring representation, 63
 polymer conformation, 63
 polymer melt, 90
 polymeric liquids, 171
 Pom-pom model, 105
 poor solvent, 158
 post processing, 121
 pseudo-energy equation, 228
 pulse delay, 120
 pulsed laser, 115
- R**
- radiation heating, 74
 random linear translating motion, 173
 rapid flow regime, 220
 rate of dissipation, 80
 rate of entropy production, 75
 rate of strain, 43
 rate-type, 226
 Rayleigh, 75
 Rayleigh–Benard flow, 136
 Rayleigh–plateau instability, 137
 Rayleigh–Fjørtoft criterion, 134
 Reiner–Rivlin fluid, 229
 relative acceleration, 73
 relaxation modulus, 92
 relaxation time, 88
 spectrum, 91
 Reynolds number, 39, 138
 Reynolds stresses, 141
 rheograms, 9
 rheological predictions, 212
 rheology, 35
 complex fluids, 4, 35
 rheometers, 38
 rheopectic behavior, 19
 Rivlin–Ericksen tensors, 70
 Rouse model, 162
- S**
- sample inertia, 104
 scattering, 112
 secant modulus, 102
 second law of thermodynamics, 74, 78
 secondary flow, 104
 semi-dilute, 173
 shape factor, 224
 shear thinning, 184
 consistency index, 11
 cross viscosity equation, 12
 Ellis fluid model, 12
 Ostwald de Waele equation, 11
 Power law models, 11
 shear-thickening, 14
 single frame, 118
 sinusoidal, 97
 slip, 78
 slurries, 4
 Small Amplitude Oscillatory Shear, 88
 soft matter, 174
 solid to solid phase transition, 78
 solidification, 78
 spatial correlations, 115
 specific entropy, 75
 spring constant, 165
 spurious vectors, 121
 statistical mechanics, 38
 Stefan-Boltzmann correlation, 233
 stoichiometry, 71
 Stokes, 78
 Stokes equation, 201
 storage modulus, 47, 88, 213
 strain amplitude, 94
 strain rate amplitude, 96
 strain softening, 98
 stream function, 135
 stress relaxation, 183
 stress tensor, 61
 substantial derivatives, 51
 supercooling transition temperature, 204
 superposition, 226
 surface tension, 137
 susceptibility, 94
 suspension, 4, 98, 188
 suspension rheology, 220
- T**
- tangent modulus, 102
 Taylor–Couette flow, 136
 thermodynamic equilibrium, 195
 thermodynamics, 68
 thermomechanics, 79
 thixotropic behaviour, 16
 time-dependent fluids, 8
 time-independent fluids, 8
 shear thickening, 8
 shear thinning, 8
 tracer particles, 114
 traction, 74
 transition from solid-like to fluid-like, 14
 Trouton ratio, 26
 turbulence, 131
 twinning, 78

U

uniaxial extensional flow, 25

V

velocity field, 124

viscoelastic

fluid, 8

behaviour, 20

instabilities, 145

linear, 42

viscometric, 174

viscoplastic, 12

viscosity, 39

common fluids, 4

shear, 40

shear rate, 41

temperature, 41

Arrhenius relationship, 41

viscous elements, 44

viscous fluid, 80

viscous response, 89

volume fraction, 223

vortex sheet, 134

vortex stretching, 142

vorticity, 134

W

waves, 132

Weiner probability distribution, 156

Weissenberg number, 95, 168, 177

WLC, 160

worm like micelles, 184

Y

yield stress, 12, 42

Z

zero-Shear Rate viscosity, 179

zero-shear viscosity, 9

Zimm model, 162