

SUBJECT INDEX

- Abundances, stellar (see also: Chemical composition; Chemical elements, abundances of) 13, 19, 71, 82, 84, 89, 122, 123, 127, 128, 179–183, 196, 198–205, 209, 238
- Accretion 222–230, 236
- Ap stars 206
- A stars 50, 206
- Ba stars 124, 128, 198–201, 204, 210, 211
- Be stars 44, 52, 195
- Binary stars (see also: Object Index; Variable stars) 81, 83, 84, 96, 98, 127, 155–167, 206, 226, 253
- Binary stars, mass exchange 83, 96, 98, 132, 155–170, 195, 234
- Black holes 96, 143, 252, 258
- Blue stragglers 30
- Bolometric correction 80, 90, 244
- Blue variable stars (see also: Object Index; Variable stars; and Novae) 192, 234
- B stars 50, 102, 254
- Carbon burning 5–8, 15, 19, 61, 63, 65, 71, 80, 81, 85, 131, 136, 151, 154
- Carbon stars 45, 50, 113, 120, 123, 124, 127, 128, 199, 202–204
- Cepheid variables (see also: Object Index; Variable stars) 46, 47, 50, 59, 83, 102, 104, 254, 255
- Chandrasekhar limiting mass 12, 27, 67, 71, 112, 114, 131, 151, 165, 257
- Chemical composition (see also Abundances, stellar) 3–13, 19, 57, 61, 84, 95, 102, 122, 123, 127, 128, 173, 198–205, 237
- Chemical elements, abundances of 13, 71, 82, 84, 123, 208
- CH stars 124, 128, 198, 200, 201, 204
- Circumstellar dust 43, 181, 218
- Clusters, globular (see Object Index) 19, 48, 49, 82, 105, 117, 209, 237, 238, 254
- Clusters, open (see Object Index) 45, 50, 57, 65, 99, 100, 209, 251, 254
- CN stars 198, 199, 204
- Color-magnitude diagram (see Hertzsprung-Russell diagram)
- Convection, core 11, 20–40, 41, 42, 66, 70, 105–121, 125
- Convection, envelope 20–40, 47, 56, 65, 77, 79, 81, 105–121, 122, 125, 128, 129, 168–170, 195, 211, 222–230
- Cosmic rays 12, 13, 196
- Crystallization 151, 222–230, 232
- Degenerate gas (see also White dwarf) 12, 20, 26, 62–69, 74, 151, 158, 231, 236
- Degenerate dwarf (see White dwarf)
- Dwarf novae (see Novae)
- Dynamical time scale 17
- Eddington-Vogt currents (see Meridional circulation)
- Energy release, rate of 3–13, 18, 137, 231, 246
- Energy release, explosive 17, 66, 114, 136–140, 155–167
- Entropy 42, 106–121, 168
- Galaxies (see Object Index) 18, 189
- Giant stars 33, 43–53, 71, 105, 113, 116, 125, 198, 209, 240, 254, 255
- Giant branch 43–53, 58–60, 109, 117, 123, 237, 240
- Gravitational collapse 13, 131, 136, 252
- Gravitational potential energy 79, 108, 168
- Gravitational radiation 161, 162, 165, 252
- Hayashi limit 105, 127
- Helium burning 4–5, 12–13, 64, 65, 71, 73, 74, 77–79, 93, 95, 101, 110, 150
- Hertzsprung gap 44, 83
- Hertzsprung-Russell diagram 19, 25, 29, 30, 55, 63, 77, 81, 82, 95, 96, 99, 100, 101, 102, 109, 199, 202, 214, 215, 217, 218, 220, 237, 240, 257
- Horizontal branch 50, 58, 82, 210, 216, 237, 238
- Hydrogen burning 18, 34, 35, 102, 109, 126, 127, 168
- Infrared photometry (see Photometry, infrared)
- Initial mass function 13, 72, 99, 100, 190
- Instability 24, 59, 60, 72, 74, 75, 86, 88, 101–103, 108, 125, 131, 133, 136, 164, 195, 218
- Instability, pulsational 73, 74
- Instability, secular 31, 93, 95, 171
- Instability, thermal 63, 88, 108, 117, 120, 133, 134, 160, 212

- Interstellar material 43, 73, 84, 172, 180
 Ionization zones 63, 106

 K stars 199, 201

 Light curve 57, 98, 134, 135, 145, 149, 150, 159, 173, 174, 197

 Magnetic fields 23, 30, 37, 76, 89, 132, 152, 206, 250, 254
 Main sequence stars 25, 29, 30, 59, 61, 62, 73, 85, 87, 95, 134, 152, 164, 170, 216, 245, 251
 Mass loss, stellar 43–53, 54, 57, 59, 63, 65, 71, 73, 82, 83, 89, 96, 101, 103, 120, 134, 151, 160, 161, 172–184, 194, 196, 213–219, 237, 254, 256
 Meridional circulation 20–40, 73, 134, 235
 Mira variables 46, 48, 49, 60, 64, 119, 200
 Mixing 20–40, 41, 70, 73, 75, 105–121, 123, 125, 134
 Molecular weight, gradients 26–30, 37, 41, 75, 86, 125
 M Stars 50, 156, 199, 200, 204

 Neon burning 8, 85
 Neutrinos 1–14, 26, 128, 153, 256
 Neutrinos, solar 30, 244–251, 256
 Neutrinos, stellar 1–14, 50, 51, 62–69, 73, 80, 87–89, 96, 111–121, 128, 132, 256
 Neutrinos, URCA processes 1–14, 63, 66, 67, 70, 132, 133, 141, 258
 Neutron stars 13, 66, 73, 96, 104, 133, 149, 152, 153, 196, 258
 Neutronization 1–14, 131, 140, 150
 Nickel burning 85
 Novae 18, 44, 60, 155–166, 168–170, 172–184, 187, 191, 192, 194, 195, 254
 N stars 82, 127
 Nuclear reaction rates 1–14
 Nucleosynthesis 1–14, 18, 19, 154, 196, 198, 211, 212

 OB stars 51, 72, 83
 Of stars 51
 Opacity 56
 Oxygen burning 8–9, 15, 19, 81, 85

 P Cyg stars 47, 51, 104, 173
 Peculiar stars 113, 116, 117, 120, 206
 Photometry, general 187, 194, 244
 Photometry, infrared 43–53, 208, 209, 218, 240
 Photometry, *UBV* 99, 187, 254
 Photometry, *uvby-H β* 238
 Planetary nebulae 43, 44, 49, 57, 60, 62, 64, 65, 67, 72, 103, 119, 210, 211, 257
 Planetary nebulae, central stars 49, 52, 63, 67, 213–221, 232
 Plume mixing 34, 35, 42
 Pressure, radiation 42, 45, 54, 57, 64, 71, 103, 104, 119, 218
 Pre-supernovae 12, 15, 67, 70, 89, 130–147, 152, 153, 172, 196
 Pulsars 65, 66, 71–73, 97, 133, 143, 149, 150, 154, 258
 Pulsations 60, 61, 73, 133, 138, 159, 160, 234, 237

 Radio sources 208, 209
 R Cor Bor stars 120, 123, 128, 199, 202, 203, 204
 Red giant (see Giant stars)
 Rotation 20–40, 50, 61, 89, 132, 152, 231, 234, 235, 250, 251
 Rotation, differential 21, 151, 152, 235
r-Process elements 17, 200, 201
 RR Lyrae stars 237, 244
 R stars 127

 Screening factors 15
 Semi-convection 41, 59, 74–84, 86, 87, 95, 96, 101, 103, 108–121, 125, 237
 Shell burning 32, 33, 42, 59, 63, 64, 66, 77, 79, 105–121, 122, 123, 125, 151, 211–220
 Silicon Burning 5, 85, 150
 Spectra 45, 135, 173–183, 185, 187, 193, 194–196, 197, 210, 211, 213, 234
s-process elements 198, 200, 201, 210–212, 258
 Stability (see Instability)
 S stars 82, 113, 120, 124, 128, 197, 199, 201, 202, 204, 210
 Subdwarfs 61
 Sun 31, 44, 47, 125, 126, 244–250
 Supergiants 46, 47, 51, 54, 63, 66, 72, 73, 77, 78, 80, 86, 95, 101, 102, 103, 104, 122, 210
 Supernovae 17, 43, 44, 49, 51, 52, 57, 65, 66, 71, 72, 84, 114, 120, 130–147, 149, 150, 152, 153, 154, 172–184, 185, 196, 245, 258
 Supernovae, type I 60, 67, 135, 172–179, 185, 189
 Supernovae, type II 57, 135, 174, 179, 180, 189

 Technetium stars 20, 200, 202, 204
 Thermal time scale 22, 59, 77

 U Gem stars 168–170

 Variable stars (see also: Object Index;
 Cepheid variables; Mira variables; Novae;
 RR Lyrae stars; Supernovae) 46, 127, 155, 185, 187, 189, 192, 199, 234, 244

White dwarf 18, 19, 26, 44, 45, 49, 52, 57, 60,
63, 65, 67, 133, 156, 159, 165, 168, 213, 215,
222–230, 231, 232, 234–236, 257
Wolf-Rayet stars 44, 51, 58, 81, 83, 96, 103,
104, 214

W UMa stars 165, 168–170
W Virginis stars 47

X-ray sources 73, 96, 161, 253, 254