

## Subject Index

### - A -

abundances, 85, 129, 237, 272, 365, 480, 508 *see also* metallicities  
accretion, 17, 291, 383, 508  
AGB, 218, 304, 508  
  stars, 65, 95, 136, 144, 185, 348, 455, 464, 489  
age metallicity relation, 121, 304  
age of  
  clusters, 85  
  Local Group, 420  
  Universe, 39  
aggregation, 383  
And I, 3, 39, 51, 203, 447  
And II, 3, 39, 203, 447  
And III, 3, 39, 51, 447  
And IV, 203  
And V, 3, 17, 203, 447  
And VI (Pegasus), 3, 17, 39, 203, 284, 409, 420, 427, 447  
And VII (Cassiopeia), 3, 17, 39, 203, 284, 447  
Antlia, 3, 17, 39, 304, 409  
Aquarius (DDO210), 3, 39, 244, 268, 409, 420, 427

### - B -

Be stars, 100, 112, 291  
blue loops, 218, 304  
blue plumes, 170, 179, 304  
blue stragglers, 85, 161, 304  
“boojums”, 3, 464, 508, 517  
bulk flow, 427

### - C -

Camelopardalis A, 17, 284, 409  
carbon stars, 17, 65, 95, 136, 144, 348, 409, 455, 480  
Carina, 3, 39, 144, 170, 304, 341, 409, 427, 451  
Cassiopeia-1, 3  
Cassiopeia (And VII), 3, 17, 39, 203, 284, 447

Cepheid variables, 3, 51, 459  
  Anomalous, 161  
  period-luminosity relation, 51, 459  
CFHT, 144, 185  
chemical  
  enrichment, 17, 72, 151  
  evolution, 108, 170, 341  
circular velocity of Sun, 420  
circumstellar matter, 95, 348  
clusters  
  age, 85  
  globular, 3, 17, 51, 85, 121, 165, 174, 231, 383, 409, 464, 480, 508  
  open, 3, 51, 81, 195, 259, 263, 291, 395  
  young, 231, 263, 277, 291, 383  
CO maps, 185  
colour-magnitude diagrams, 17, 72, 85, 108, 121, 151, 161, 165, 170, 174, 179, 185, 203, 218, 231, 253, 259, 263, 268, 284, 304, 325, 464, 508  
  synthetic, 151, 179, 195, 218, 304, 325, 517  
cosmic microwave background, 427  
cosmology, 420, 443, 517

### - D -

dark haloes, 341, 402  
dark matter, 3, 383, 402, 433, 451, 508, 517  
data analysis, 369, 373  
DDO155, 427  
DDO187, 39  
DDO210 (Aquarius), 3, 39, 244, 268, 409, 420, 427  
DENIS, 65, 455  
disks, 185, 237, 321, 341, 383  
  scale lengths, 321  
distance scale, 51, 89, 268, 348, 459, 517  
distances, 3, 136, 185, 203, 218, 244, 253, 284, 508  
Draco, 3, 17, 39, 144, 341, 409, 427, 451

dust, 321, 330, 489  
dwarf galaxies  
  blue compact, 253, 464, 508  
  elliptical, 3, 17, 195, 231, 304,  
    447, 451  
  irregular, 3, 17, 179, 203, 218,  
    244, 268, 291, 304, 325, 409,  
    420, 447, 464  
  spheroidal, 3, 17, 39, 121, 136,  
    144, 151, 161, 165, 170, 174,  
    179, 203, 218, 284, 304, 325,  
    341, 383, 402, 409, 420, 427,  
    447, 451, 455, 464, 508, 517  
dynamics, 39, 383, 395, 402, 409,  
  420, 427, 433

– E –

EGB0427+63, 39, 409, 420  
elliptical galaxies, 334, 341, 427  
  giant, 383, 508  
emission line stars, 81, 100, 112, 277,  
  280, 291  
emission lines, 280  
Eridanus, 85

– F –

field stars, 231, 263  
Fornax, 3, 17, 39, 144, 161, 165,  
  170, 174, 304, 341, 409, 427,  
  451, 455  
fundamental parameters, 443

– G –

Galactic  
  Bulge, 81, 89, 136, 144, 395  
  Centre, 81  
  structure, 85, 89  
galaxy  
  bars, 383  
  bulges, 341, 383  
  classification, 17  
  dark haloes, 341, 402  
  disks, 185, 237, 321, 341, 383  
  dynamics, 39, 383, 395, 402, 409,  
    420, 427, 433  
  evolution, 17, 151, 218, 402, 433,  
    451

galaxy (*continued*)  
  formation, 451  
  groups (other), 3, 17, 39, 253,  
    409, 433, 508  
  haloes, 3, 17, 85, 116, 185, 341,  
    383, 409, 464, 508, 517  
  interactions, 17, 179, 383, 420,  
    433, 447  
  kinematics, 39, 409, 420, 427  
  masses, 3, 17, 39, 383, 402, 409,  
    433, 451, 508  
  mergers, 383, 433, 517  
  nuclei, 195, 237, 330, 334, 373  
  orientation, 443  
  outflows, 330  
  rotation curves, 39, 383, 402  
  structure, 203, 237, 464  
  winds, 330, 451  
giant branch tip, 51, 203, 244, 253,  
  268, 284, 508  
giant elliptical galaxies, 383, 508  
globular clusters, 3, 17, 51, 85, 121,  
  165, 174, 231, 383, 409, 464,  
  480, 508  
GR8, 17, 39, 218, 420

– H –

haloes, 3, 17, 85, 116, 185, 341, 383,  
  409, 464, 508, 517  
HI maps, 185  
HII regions, 104, 253, 259, 263, 272,  
  280, 464, 489  
Hipparcos, 51, 348, 409  
Hog, 427  
horizontal branch, 17, 151, 165, 170,  
  174, 179, 185, 218, 304, 325,  
  348  
  morphology, 203  
horizontal-branch stars, 51, 195, 231,  
  395  
  extreme, 195, 373  
HST, *see* photometry, HST

– I –

IC10, 3, 17, 39, 244, 409, 427, 447  
IC342, 3, 427  
IC1613, 3, 17, 39, 259, 409, 427  
IC5152, 17, 39, 409, 420, 427  
instrumentation, 480, 503

interstellar  
extinction, 185, 218, 244, 263,  
321  
medium, 17, 185, 383  
irregular galaxies, 259, 263, 427  
ISO, 95

– L –

large telescopes, 471, 503, 508  
lenticular galaxies, 334  
Leo A, 3, 17, 39, 218, 409, 420, 427  
Leo I, 3, 17, 39, 144, 151, 179, 304,  
325, 341, 409, 427  
Leo II, 3, 39, 144, 203, 341, 409,  
427, 451  
LGS-3 (Pisces), 3, 17, 39, 304, 427,  
447  
Lick indices, 356, 365, 369  
LMC, 3, 17, 39, 51, 65, 72, 100, 104,  
108, 144, 161, 291, 348, 383,  
409, 427, 459, 489  
bar, 108  
long-period variables, 81, 89, 348  
luminous blue variables, 81, 280, 489

– M –

M31, 3, 17, 39, 51, 185, 195, 203,  
237, 263, 291, 341, 383, 409,  
420, 427, 447, 496  
satellites, 39, 203, 231, 409, 447,  
517  
M32, 3, 39, 195, 334, 341, 427, 447  
M33, 3, 39, 51, 185, 263, 272, 280,  
291, 383, 427, 447  
M81, 341, 373  
M82, 330  
M87, 341  
M104, 341  
MACHO, 116  
Magellanic Clouds, 3, 51, 65, 72, 95,  
100, 104, 112, 144, 291, 348,  
383, 459, 480  
Magellanic Stream, 3, 383  
magnetic fields, 291, 330, 330  
main-sequence turnoff, 108, 151, 170,  
174, 218  
mass loss, 95, 263, 291, 330, 348,  
455  
mass of Local Group, 39, 420

massive stars, 100, 259, 263, 277,  
291, 373, 377  
mass-to-light ratio, 3, 341, 383, 451  
membership, 3, 17, 268, 427, 508  
metallicities, 3, 17, 51, 108, 121,  
129, 151, 165, 185, 203, 218,  
231, 231, 253, 268, 272, 277,  
291, 304, 348, 356, 373, 377,  
383, 395, 459, 464 *see also*  
abundances

microlensing, 116  
Milky Way, 3, 39, 85, 291, 383, 395,  
409, 420, 427, 459  
Mira variables, 51, 89, 136, 348  
model atmospheres, 272, 356, 365

– N –

neural networks, 369  
NGC55, 3, 17, 39, 383, 409, 427  
NGC147, 3, 17, 39, 427, 447, 447,  
451  
NGC185, 3, 17, 39, 231, 427, 447,  
451  
NGC205, 3, 39, 231, 427, 447, 451  
NGC300, 409  
NGC1560, 3, 409  
NGC1569, 3, 409  
NGC1613, 51  
NGC2419, 85  
NGC2841, 341  
NGC3109, 3, 17, 39, 51, 409, 420,  
427  
NGC3115, 341  
NGC4321, 341  
NGC4618, 383  
NGC5457, 341  
NGC6503, 341  
NGC6789, 253  
NGC6822, 3, 17, 39, 51, 263, 291,  
304, 427  
NGC7793, 341  
numerical methods, 373

– O –

open clusters and associations, 3,  
51, 81, 195, 259, 263, 291,  
395  
optical identifications, 112  
optical/infrared astronomy, 471, 503

– P –

Pal 3 and 4, 85  
parallaxes, 51, 348  
Pegasus (And VI), 3, 17, 39, 203,  
284, 409, 420, 427, 447  
Pegasus dIr, 3, 39, 218, 304  
Phoenix, 3, 17, 39, 179, 304, 325,  
409, 420  
photoionization, 17  
photometry, 72, 108, 121, 161, 170,  
179, 185, 237, 244, 253, 259,  
268, 277, 321, 325, 455  
HST, 85, 108, 151, 165, 174, 195,  
203, 218, 231, 244, 263, 304,  
464  
infrared, 65, 81, 89, 95, 136, 259,  
348, 455, 489  
Pisces (LGS-3), 3, 17, 39, 304, 427,  
447  
PLANET, 116  
polar orbits, 17, 447  
polarization, 330  
population synthesis, 304, 365, 373  
post-AGB stars, 65, 195, 348, 373,  
455  
proper motions, 17, 51, 116, 129,  
409

– Q –

Quintuplet cluster, 81

– R –

radio-continuum, 104  
red clump, 51, 151, 165, 170, 174,  
179, 218, 284, 304, 325, 464  
red giant branch, 121, 151, 165, 179,  
185, 218, 231, 268, 325  
tip, 51, 203, 244, 253, 268, 284,  
508  
red giants, 129, 170  
remnant scenario, 433, 447  
ROSAT, 100, 104, 112, 334, 496  
Rose Indices, 369  
RR Lyrae variables, 3, 51, 85, 161,  
165, 203, 383

– S –

Sagittarius DIG, 3, 39, 409, 420  
Sagittarius dSph, 3, 17, 39, 121, 129,  
136, 144, 409, 427, 489  
SALT, 471  
SCUBA, 330  
Sculptor dSph, 3, 17, 39, 144, 203,  
341, 409, 451  
Sculptor spiral, 427  
Sextans, 3, 17, 39, 144, 341, 409,  
451  
Sextans A, 3, 17, 39, 51, 218, 409,  
420, 427  
Sextans B, 3, 17, 39, 51, 409, 420  
SMC, 3, 17, 39, 51, 65, 95, 100, 104,  
112, 116, 144, 291, 409, 427,  
459, 489  
SN1987A, 51  
SNRs, 104, 280, 334, 496  
spectral  
classification, 369  
indices, 129, 356, 365, 369  
spectroscopy, 136, 144, 237, 263, 272,  
277, 373, 377, 433, 508  
infrared, 95, 348, 489  
multi-object, 129, 280, 395, 480  
ultraviolet, 263, 480  
spectrum synthesis, 356, 365  
spiral galaxies, 3, 185, 195, 263, 272,  
280, 291, 321, 341, 373, 383,  
420, 427, 447  
SS433, 280  
star formation, 85, 108, 185, 291,  
451, 464, 517  
history, 3, 17, 72, 121, 151, 165,  
170, 174, 179, 203, 218, 304,  
433, 447, 496, 508, 517  
starburst galaxies, 277, 330  
stars  
AGB, 65, 95, 136, 144, 185, 348,  
455, 464, 489  
Be, 100, 112, 291  
binary, 72, 100, 112, 116, 151,  
161, 291, 304, 496, 517  
carbon, 17, 65, 95, 136, 144, 348,  
409, 455, 480  
emission line, 81, 100, 112, 277,  
280, 291  
field, 231, 263

stars (*continued*)

- horizontal-branch, 51, 195, 231, 373, 395
  - massive, 100, 259, 263, 277, 291, 373, 377
  - post-AGB, 65, 195, 348, 373, 455
  - pre-mainsequence, 291
  - variable, 51, 81, 89, 112, 136, 161, 459, 496
  - Wolf-Rayet, 259, 277, 280, 291
  - young, 108, 185, 259, 263, 280, 284, 291, 464
- stellar
- ages, 108, 121, 151, 237, 517
  - atmospheres, 272, 356, 365
  - evolution, 72, 151, 195, 291, 304, 348, 377, 508
  - evolution models, 377
  - kinematics, 116, 383, 395, 402, 480
  - population gradients, 17, 165, 179, 203, 304, 321, 325, 373
  - population models, 341
  - populations, 121, 174, 185, 195, 218, 253, 268, 341, 464
  - radii, 459
  - rotation, 291
- Subaru, 503
- subgroups, 427, 433, 443
- submillimetre observations, 330
- supergiants, 81, 100, 185, 244, 259, 272, 291, 464
- supernovae, 17
- winds, 451
- surveys, 65, 72, 100, 104, 121, 144, 203, 471, 489

– T –

- tidal effects, 3, 17, 179, 383, 402, 409
- Tucana, 3, 17, 39

– U –

- UGC-A86, 3
- UKS2323-326, 3, 39, 409
- ultraviolet, 195, 395
- Ursa Minor, 3, 17, 39, 144, 179, 304, 341, 409, 427, 451

– V –

- variability index, 161
- variable stars, 51, 81, 89, 112, 136, 161, 280, 348, 459, 489, 496
- see also* Cepheid, long period, luminous blue, Mira and RR Lyrae variables
- VII Zw 403, 218, 464

– W –

- WLM, 3, 17, 39, 51, 409, 420, 427
- Wolf-Rayet stars, 259, 277, 280, 291

– X –

- XMM, 496
- X-ray binaries, 100, 112, 496
- X-rays, 100, 104, 334, 433, 464

– Y –

- young clusters, 231, 263, 277, 291, 383
- young stars, 108, 185, 259, 263, 280, 284, 291, 464