

KEY WORD INDEX

Page numbers are those of the title page of the article in which the subject is mentioned.

abundances:

- bubbles around WR stars 198
- Cepheids 501, 545
- gradients in spiral galaxies 93, 111, 621, 624
- H II regions 111, 198, 501, 635
- metal-poor stars 501
- solar 111
- supergiant stars 501
- supernova remnants 501
- accretion 348, 440
- accretion disks 378, 384, 388
- accretion toroids, gravitational field 394
- Alfvén velocity 385
- Alfvén wave braking 338
- Alfvén waves 93, 403, 452
- ambipolar diffusion 417, 452
- anemic galaxies 633
- angular momentum problem 338, 339, 452

B stars 45

- bar formation 403
- barred galaxies 612, 626, 628, 631, 632
- bimodal star formation 93, 417, 663, 709
- bipolar flows, see bipolar outflows
- bipolar jets 394
- bipolar jets:
 - acceleration 381
 - collimation 381
 - helical magnetic field 381, 384
 - precession 379, 398
 - rotating disks 381, 435
- bipolar outflows 19, 78, 86, 123, 163, 172, 202, 213, 239, 275, 325, 328, 330, 336, 357
- bipolar outflows:
 - acceleration mechanism 361
 - associated masers 333
 - collimation mechanism 361
 - core regions rotation 366
 - helical velocity field 287
 - high velocity 315, 328
 - hollow cylindrical lobes 287

- hydrodynamic simulation 378
 - kinematics 328, 361
 - low luminosity objects 343
 - Bok globules 76, 78, 82, 211, 364, 366
 - bulge stars, IR colors 19
-
- central runaway 403
 - centrifugal bounce 403
 - centrifugally driven wind 338
 - Chandrasekhar's limiting mass 403
 - chemical evolution of galaxies 621, 663, 701
 - chemistry of molecular clouds 146
 - circumstellar disks 239, 255, 287, 394
 - circumstellar dust clouds, origin and evolution 301
 - cirrus clouds 19, 80
 - cloud-cloud collisions 438
 - clumpy irregular galaxies 599, 642, 644, 647, 648
 - CO:
 - highly excited rotational levels 176
 - galactic surveys 495, 499
 - infrared emission 74
 - coagulation equation 547
 - collapse 709
 - collisional excitation of H 346
 - collisional ionization 340, 346
 - cometary globules 78
 - cometary nebulae 189, 191, 200, 398
-
- dark clouds 19, 48, 51, 64, 69, 71, 81, 84
 - dark globules 90
 - density wave potential 539
 - density waves 457, 535, 626, 709
 - density-wave triggering 457, 535
 - dispersion relations 403
 - distance to the galactic center 554
 - drift velocity 454
 - dust cavities 189
 - dust cocoons 141
 - dust grains 82, 88, 93, 111, 123, 167, 189, 190, 372, 454
 - dust shells 19, 182
 - early stellar evolution 440
 - elliptical galaxies 634
 - elongated structures, jets 396
 - elongated structures, projection effects 396
 - evolution of galaxies 691
 - evolution of protostars 709
 - evolutionary tracks of accreting stars 440
 - extinction 58, 82, 88

- filamentary structures 51, 69, 80, 239, 451
- flare emission 45
- flocculent galaxies 457
- fluid-in-cell method 403
- fragmentation 51, 76, 93, 207, 377, 403, 442, 443, 448, 451, 452, 709

- fragmentation theory 448, 501
- Fuors 200

- galactic chemical evolution 92, 111
- galactic molecular ring 483
- galactic plane, radio continuum survey 538
- galaxies:
 - age and color gradients 457
 - anemic 633
 - barred 512, 626, 628, 631, 632
 - bursts of star formation 587, 614
 - clumpy irregular 599, 642, 644, 647, 648
 - CO and blue light 557
 - CO and IR luminosities 557
 - CO distributions 557, 611, 614, 620, 622, 628, 631, 632, 657, 659, 660
 - elliptical 634
 - flocculent 457
 - gas infall 691
 - grand design 457
 - IRAS catalogue 657
 - IRAS observations 587, 612
 - irregular 557, 599, 611, 635, 654
 - KISO UV-excess 648, 655
 - Markarian starburst 636, 640, 642, 644, 647, 648, 655
 - nuclei of early type 642
 - spiral 587, 621, 624, 628, 657, 659, 660
- galaxy-galaxy interaction 650
- gas infall into galaxies 691
- giant H I shells 194, 457
- giant molecular clouds 1, 483, 495, 499, 539, 541, 691
- Gould's belt 457
- grand design galaxies 457
- gravitational instability 435, 442, 443, 444, 457, 691
- H I:
 - 21 cm line study 67
 - collisional excitation 346
 - giant shells 194, 457
 - zones around H II regions 194, 203
- H II regions 19, 111, 123, 143, 156, 181, 182, 187, 190, 442
- H II regions:
 - abundances 111, 198, 501, 635
 - bipolar 359, 369

- blister type 193
- champagne model 211
- compact 143, 161, 163, 167, 170, 171, 174, 189, 193
- compact bipolar 275
- diffuse 196, 210
- dynamical properties 197
- dynamics 155
- giant 198, 622, 626, 635
- giant shell 194
- hollow 198
- optically thick 185
- small 189, 191, 210
- two dimensional models 154
- ultracompact 141, 163, 171, 197, 198, 435
- X-ray emission 198
- H lines, pressure broadening 197
- H lines, radiative transfer model 197
- H₂:
 - bipolar structure 325
 - dissociation fronts 203
 - fluorescent line emission 139, 187
 - population of vibrational states 179, 325
 - shock excitation 325
 - shock gas 334, 375
- H-alpha-emission stars 61, 62, 64, 78, 368
- Herbig Ae/Be stars 62
- Herbig-Haro objects 1, 81, 123, 200, 210, 315, 340, 341, 346, 396
- high galactic latitude clouds 80
- hyperactive starbursts 599

- infrared sources 1, 163, 181, 182, 185, 187, 189, 358, 361, 552
- initial mass function \dot{m} , 45, 93, 343, 442, 501, 547, 553, 614, 650, 653, 709
- inner galaxy 663
- inside-out collapse 417
- instabilities:
 - gravitational 417, 435, 442, 443, 444, 457, 691
 - Jeans 403
 - Parker 85
 - Rayleigh-Taylor 90
 - sausage-type 403
 - thermal-chemical 446
- interstellar disks 239, 255, 329
- interstellar medium, three phase 501
- interstellar toroids 239
- ionization fronts 141, 150, 155, 193, 196
- ionized jets 388
- ionized outflows:
 - Br-alpha luminosity 343
 - Br-gamma luminosity 343

- mass loss rate 336
- IRAS 19, 255, 328, 442, 521, 556, 622, 638, 653
- IRAS:
 - galaxy catalogue 657
 - observations of galaxies 587, 612
 - point source catalogue 62, 64, 68, 69, 86, 208, 333, 557, 557, 640
 - sources 74, 81, 207, 208, 357
- irregular galaxies 557, 599, 611, 635, 654
- isothermal clouds, equilibrium structure 377, 403
- isothermal gaseous disks 435
- isothermal sheet-like clouds 451
- isotropic turbulence 403
- IUE 58, 642

- Jean's instability 403
- Jean's mass 403, 417, 457
- Joule dissipation 454

- KISO UV-excess galaxies 648, 655

- laboratory observations of: H_2D^+ , PO, PO_2 , HPO, CCO, HCCN, SiN, FeO and CH_3O 92
- Large-scale propagation 457
- LMC, star formation 501, 521, 551, 552, 553, 709
- low mass stars 19, 62, 64, 90, 93

- MacLaurin spheroid 403
- magnetic braking 452
- magnetic fields 48, 51, 55, 69, 82, 84, 85, 93, 123, 202, 287, 315, 334, 338, 339, 375, 383, 384, 388, 417, 435, 454, 451, 709
- magnetic flux 417, 452, 454
- Markarian starburst galaxies 640, 642, 644, 647, 648
- masers 55, 156, 161, 170, 171, 174, 178, 187, 200, 202, 333, 334, 552, 554, 636, 638
- masers, relation with compact H II regions 174
- massive star formation 483
- metal enhanced star formation 111
- metallicity gradients in the galaxy 93, 111
- molecular bipolar flows, sweeping-magnetic-twis mechanism 385
- molecular-cloud complexes 170, 443
- molecular cloud cores, star formation 417
- molecular cloud formation efficiency 557, 632
- molecular cloud hot spots 19
- molecular clouds 55, 93, 172, 358, 361
- molecular clouds and spiral arms 709
- molecular clouds and young stars 709

- molecular clouds:
 - column density 145
 - cores 19, 51, 81, 93, 163, 167, 170, 171, 325, 329, 355, 417
 - high density regions 173
 - interaction with H II regions 123, 141, 149, 150, 155, 193, 194, 196
 - kinematics 145, 146
 - mass outflow 210
 - structure 90, 372
 - temperature distribution 145
- molecular disks 369
- molecular disks, hydromagnetic winds 336
- molecular outflows:
 - acceleration 275, 287, 328
 - collimating structures 239, 255, 328, 329
 - distribution of masses 213
 - energetics 213, 255
 - expansion 213
 - frequency 213
 - kinematics 213, 328, 348, 352, 355
 - magnetic field 255
 - magnetodynamic theory 287
 - mass loss rate 336
 - morphologies 213, 315, 348, 352, 355
- molecular shells 213

- nebular disk 417
- NH₃ (ammonia) survey 67
- non-thermal emission 158, 626
- nuclei of early type galaxies 642

- O stars 359
- OB associations 1, 58, 205, 211
- OB stars 179, 200, 435, 483
- OH, cooling mechanism 315
- olive jar model 599
- optical bipolar nebulae 369, 400
- optical outflows 255
- outer galaxy, star formation 483
- outflows, driving mechanisms 709

- Parker-type hydromagnetic instability 85
- periodic star formation 691
- planetary nebulae 19, 191
- planetestimals 301
- planets, formation 301
- polarization 48, 82, 84, 85, 239, 330, 348, 374, 556, 626
- pre-main-sequence stars 45, 62, 78, 403
- propagation of star formation 457
- protogalaxies 446, 663

protoplanetary clouds 239
protoplanetary nebulae 400
protoplanets 301
protostars 1, 19, 71, 74, 86, 185, 187, 208, 210, 336, 371, 384, 391,
417, 709
protostar of low mass 348
protostellar clumps 173
protostellar disks 275, 709
protostellar winds 375

quasi-static contraction 417

radiatively driven implosion 435
Rayleigh-Taylor instability 90
receivers, millimeter low-noise 708
reflection nebulae 19, 187, 189, 275, 315, 330, 340, 374
ring formation 403
rotating isothermal cloud 377, 403
rotating molecular disks 230, 275, 329

sausage-type instability 403
self-propagating star formation 501
self-regulated star formation 457, 548
sequential star formation 62, 457, 554
shingles 457
shock fronts 141, 150, 202
shock waves 85, 123, 444
shock waves, dissociative 334
shock waves, non-dissociative 334
shocked molecular gas 150, 176, 181, 207
SMC, star formation 501, 551, 709
smoothed-particle method 403
solar accretion 111
solar neighborhood 111, 663
solar system 111
solar wind 111
spherical protostellar evolution 417
spin angular momentum 403
spiral arm shocks 457, 626
spiral arms 457, 483, 495, 535, 539, 622, 626, 631, 632, 660
spiral galaxies 587, 621, 624, 628, 657, 659, 660
spiral galaxies:
 chemical abundance gradients 621, 624
 star formation bursts 587, 628
star cloud turbulence 93
star complexes 457
star formation efficiency 19, 69, 483, 557, 624, 663, 709
star formation rate 93, 501, 548, 557, 611, 633, 650, 653, 663, 709

- star formation 1, 19, 68
- star formation:
 - bursts 170, 501, 587, 628, 636, 640, 650, 663
 - history 57, 501, 557, 663, 701
 - induced 141, 444
 - low mass stars 19, 90, 93
 - massive stars 93, 171
 - near the galactic center 551, 556
 - outer galaxy 483
 - rate in the galaxy 93
 - regions of 81, 85, 143
 - secondary 545
 - self-propagating 501
 - self-regulated 457, 548
 - sequential 62, 457, 551
 - stochastic self-propagating 501, 521
 - triggered 161, 170, 438
- star forming complexes 501
- star forming regions 544
- star forming regions:
 - high resolution studies 146, 329
 - stellar kinematics 61
- star burst galaxies 614, 640, 654, 655, 663
- starbursts 417, 587, 663
- starbursts, hyperactive 599
- stars:
 - B 45
 - bulge 19
 - Cepheids 501, 535
 - Fuors 200
 - H-alpha-emission 61, 62, 64, 78, 368
 - Herbig Ae/Be 62
 - low mass 62, 64, 90, 93
- stars:
 - massive 93, 171
 - metal-poor 501
 - O 359
 - OB 179, 200, 435, 483
 - pre-main-sequence 45, 62, 78, 403
 - supergiant 501
 - T Tauri 19, 61, 62, 68, 69, 74, 187, 200, 417
 - WR 198
 - young 33, 123, 239, 255, 398, 552
- stellar associations 1, 58, 200, 205, 211, 417, 551
- stellar contraction 440
- stellar differential rotation 417
- stellar evolution, convective overshoot 198
- stellar jets 213, 239, 255, 348 381
- stellar jets:
 - compact 333
 - ionized 275

- focusing 239
- stellar populations 553
- stellar radio variability 45
- stellar winds 93, 194, 198, 202, 213, 239, 352, 359, 368, 383, 391, 398, 400, 417
- stochastic self-propagating star formation 501, 521
- stochastic star formation models 521
- streamers 123
- submillimetre wavelength spectra 153, 155, 173
- super-association 457
- superclouds 457
- superclusters 457
- supernova remnants 85, 207, 208, 442, 538, 624
- supernovae 111, 202, 208, 614
- supersonic turbulence 43, 444
- support of molecular clouds 709
- surveys:
 - CO 495, 499
 - H Alpha stars 62
 - Herbig-Haro objects 341
 - NH₃ (ammonia) 67
 - radio continuum 538
 - VLA 45

- T associations 1, 417
- T Tauri stars 19, 61, 62, 68, 69, 74, 187, 200, 417
- telescope, 4-m millimeter wave at Nagoya 706
- thermal pressure 417
- trapezium systems 200
- triggered star formation 161, 170, 438
- turbulence 443, 444
- turbulent viscosity 398

- virialization 403

- wind-swept cavities 213, 275
- WR stars 198

- young stars 33, 123, 239, 255, 398, 552

- Zeeman splitting 55