

## INDEX OF SUBJECTS

- Adiabatic clouds 252, 255
  - Axisymmetry 255
  - Collapse of and 255, 256
  - Equilibrium and 255, 257
  - Fragmentation of 255
  - Rotating adiabatic clouds 255
  - Maclaurin spheroids 255, 259
  - Star formation 255
  - Non-axisymmetric collapse 257
- Air Force Office of Scientific Research 289
- Asteroid-neutron star collisions 591-594
  - Gamma-ray bursts 591, 593
  - "Astroid" 592
  - Neutron star 593
- Astronomical Journal 425
- Bade-Wesselink method 499
- Beta cephei stars and related 313-320, 329-332, 337, 340, 345, 351
  - B-stars 314, 450, 452
  - B supergiants 314
  - Ultra-short-period B stars 314
  - Maia stars 314
  - H-R diagram 315
  - Amplitude changes 316
  - Mode identification 317
  - Pulsation constant 318
  - Period ratios 318
  - Line profiles 318
  - Polarization 318
  - Destabilizing mechanisms 319
  - 53 Per stars 320
- Binary systems 255, 267
- BL Her stars 503-507
- BL Herculis stars 416
- Bump masses - BL Herculis variables 495-500
- BW vulpeculae 337, 339, 340, 345-347, 349
- Cepheid luminosity scale 449-454
  - Galactic clusters 449
  - Pulsation masses 449
  - Evolutionary masses 449
  - Beat masses 449
- Cepheid modelling 227
- Cepheid variables 389-397, 419-422
  - Large-amplitude mode behaviour 389
  - Convection 389
  - Cepheid masses 389, 392, 395
  - "Pulsation mass" 389
  - "Wesselink mass" 389
  - Double-mode behaviour and 389
  - Resonance 389
  - Bump & beat mass anomalies 393, 395
  - Tangled magnetic field 394
- Collapse of interstellar clouds 1D, 2D, 3D 227
  - Star formation 235
  - Gravitational instability 235
  - Collapse 235
  - Magnetic cloud 236
  - Magnetic braking 236, 245
  - "Accretion" time scale 237
  - Protostar 237
  - Ring-like density wave 237, 240
  - Ring formation 237
  - Fragmentation theory 237, 243
  - Stellar clusters 237

- Mass spectrum 237
- Isothermal collapse 237, 244
- Toroidal density 241, 249
- Core collapse 537-542
- Type II super novae 537
- Neutrino effects 537
- Core helium flash 491-493
- Time dependent convection 492
- Hydrogen shell 493
- Critical frequency - stellar pulsation theory 413-417
- Resonance 413
- Cepheid instability strip 413
- Linear running wave 413
- Delta scuti stars & dwarf cepheids 361-368, 377-378, 381-386
- Radial & non radial pulsation 362, 363
- Pulsation constant 364
- Pulsation modes 365
- Resonance/s 377, 385
- Resonance coupling 377
- Frequency splitting 377
- Homogenous and two-zone models 381-386
- Period ratios 382
- Helium depleted surface layer 384
- Dense molecular clouds 275-282
- O-B associations 275
- Two-dimensional radiation hydrodynamic calculations 275-282
- Ionization-shockwave 275, 277
- Star formation 275
- Radiation-hydrodynamics 275-280
- Department of Energy 576
- Driving mechanism (solar pulsations) 283, 301
- Double-mode cepheids 401-409
- Periods and amplitudes 402
- Double-mode phenomenon 405
- Mass discrepancy 405
- Non-linear mode interaction 408
- Eddington factor 263
- Fast time-resolution spectroscopy 329-332
- BW vulpecular 329, 331, 337-342
- Formation of spectral lines 329
- Helium-ionization 329, 332
- Atmospheric pulsations 329
- B cephei variables 329
- Galactic clusters 449
- Goddard Space Flight Centre 229
- Helium burning 483, 588-590
- Helium shell pulses 464
- H-R diagrams 315, 339, 357, 406
- HR 7308 425-428, 429-430
- Small-amplitude cepheid 425, 429
- Spectroscopic observations 426
- Classical cepheid 431-434
- Blazhko effect 431
- Hydrogen-deficient carbon stars (HdC) 520
- Instability strip 621-626
- Hot degenerates 621
- Radial pulsation vectors 624, 626
- Ionization-shockwave 275-277
- Kitt Peak National Observatory 425, 454
- Light and velocity curve bumps 337-342
- BW vulpecular 337, 341, 345-350
- Resonance mechanism 337
- H-R diagram 339
- Non-radial pulsation 345
- Linear and non-linear pulsations of Beta cephei stars

- B cephei variable 323
- D Virginis 323
- Semi-convection 323-324, 325
- Eigenfunctions 325
- Non-linear theory 325
- Los Alamos & Goddard Conferences 227
- Los Alamos Scientific Laboratory (UCAL) 227, 229, 342, 488, 584, 626, 639
- Low-mass evolution and 483-488
  - Ignition of helium 483
  - Horizontal branch 483
  - Core helium burning 483
  - Neutrino "cooling" 484
  - Linear growth rate 484
  - Hydrostatic equilibrium 484
  - Convective shell 485
  - Primordial helium abundance 487
  - Blue HB 487
- MacLaurin spheroids 255, 259, 267
- Magnetic fields on stellar pulsations 661-666
- Perturbation equations 662
- Mass loss-cataclysmic variable secondaries 641-647
- Mira long period variables 457-464
  - Pulsation constant 457
  - Model atmosphere calculations 458
  - Shock hydrodynamics 462
  - Helium shell pulses 464
- Mode discrimination - non-radially oscillating stars 371-375
  - Mode identification 373
  - Multi-periodic stars 375
- National Science Foundation 306, 454, 488, 493, 534, 576, 589, 610, 619, 639
- Neutron star 591-593, 595, 596
- Neutron star formation 595
  - Collapse of white dwarfs 595
  - Carbon ignition 595
- Newtonian Approximation 301
- Newtonian radiative cooling law 287
- Non-linear models - BL Her stars 506
- Non-radial oscillations 307-312
  - "Macroturbulence" 307, 308
  - Granulations 307
  - Line broadening 307
  - H-R diagram 311
- Nova outburst 635-639
  - Hydrodynamic studies 635-639
  - Nova binaries 635
  - Thermonuclear runaway 635
  - Degenerate dwarf 635
  - CNO enhancement 637
  - Dwarf novae and elemental diffusion 638
- Orion 265
- Participants - List of 231-233
- Photospheric gravity waves 288, 289
  - Acoustic waves 288
  - Velocity-velocity correlation 288
- Planetary progenitor rotation 467-471
  - Ejected nubular shell
  - Planetary nebulae 467
- Pre-supernova model 579, 580
- Protostellar clouds 247, 255
  - Gravitational fragmentation 247
  - Numerical code 247
  - Toroidal (ring) structure 249
- Non-axisymmetric 250
- Pulsation modes and luminosities of B cephei stars 351
  - Pulsation constants 351
- Radiative damping of gravity waves 301-305
  - Non-local character 301
  - Driving mechanism 301

- Penetrative convection Solar type protostars 261-265
- Newtonian approximation 301- Protostar 261
- Non-diabatic 301, 302 - Thermodynamic processes 262
- Mean intensity 302 - Eddington factor 263
- Radiative transfer 304 - Convection zone 283
- Damping times 305 - Driving mechanism 283
- Rayleigh-Taylor instability - Gravity waves 283
- 294, 571-577, 579 - Global oscillation 284
- R Coronae Borealis pulsations 519-525, 529-534 - Phase stability 284
- R CrB stars 519 - Asymptotic limits 284
- Hydrogen-deficient-carbon stars 520, 529 - Solar limb 285
- Evolutionary state 520 - Radiation intensity 285
- High luminosity helium stars 522 - Linear stellar pulsation 285
- Type I super novae 529 - Non-local properties 286
- RR Lyr 509 - Radiative transfer 286
- RR Lyrae & BL Herculis variables 475-480, 483, 495-500, 509, 511-516 - Boundary conditions 286
- Radiation-hydrodynamics 275-280 - Solar oscillations 289
- Rotating polytropes 267-272 Spherical oscillation patterns 473-474
- Maclaurin spheroids 267, 269 - Spherical harmonics 473
- "Fission hypothesis" 267 Stellar collapse 555-560
- 3D hydrodynamic investigations 268 - Gravitational radiation 555
- Non-axisymmetric evolutions 269 - Non-axisymmetric 555
- Unstable polytrope 269 - The evolutions 557
- Maclaurin bar-mode 269, 271 - Gravity wave radiation 560
- Rotational & tidal perturbations Super nova explosions 571-577
- Non-radial oscillations - Rayleigh-Taylor instability 571-577
- Polytropic stars 649-651 - Convective flow 573
- Rotational modes 653 Super novae explosions 545-551
- Uniformly rotating star 653 Type I (SN I) 545, 550, 595
- Toroidal fields 653 Type II (SN II) 545-546
- r-modes 653 Super nova remnant 583
- RV Tauri stars 416
- Taurus-Auriga 265
- Thermodynamic transport properties 627-632
- Relativistic imperfect fluids 627
- Thermal and electrical conductivities 627
- Bulk and sheer viscosities 627
- Relativistic magnetic Boltzmann equation 627, 628
- Deformation and vorticity tensors 629
- Liouville's theorem 629
- Maxwell electromagnetic field tensor 629
- Relaxing time 629
- Santa Catalina Laboratory for Experimental Relativity by Astrometry 289
- Sedov phase 579, 582
- Solar pulsations 227, 283-289

- Scattering integral 629
- Spherical harmonics 630
- Toroidal magnetic fields 667-672
- O-stability 667-672
- Hydromagnetic instabilities 667-672
  
- University of Arizona 289
- University of Colorado 534
- Ultra-short period cepheids 443-446
  - Large Magellanic cloud 443
  - Period-luminosity 443, 445
  - Anomalous cepheid 444, 445
  - SMC/RR Lyrae 444, 445
  - Double-mode pulsator 445
  - LMC cepheids 445, 446
  - Instability strip 445
  
- Variability among B stars 353
  - B cep variables 353
  - B cep pulsation 353
  - Instability box 353
  - Detection surveys 353
  - 53 Piscium 356
  - Y peg 356
  - D Virginas 323
  
- W vir stars 499
- Wave model for dwarf novae 643-647
  - Rapid coherent oscillation 643
  - Accretionary-driven wave 643, 644, 646
  - Binary system, and 643
  - Close binary system 643
- Wesleyan University 289
- White dwarfs - evolution of 613-619
- White dwarf models 563-569
  - Super nova mechanisms in 563
  - Accreting white dwarfs (WD's) 563
  - Presuper nova 563
  - Quiet super nova 563
  - Neutron star 563
  - Carbon deflagration 565, 566
  
- Helium envelope-detonation 565, 566
- Dual detonation type super novae 565, 566
- White dwarf pulsations 601-610
  - DA white dwarfs 601
  - 22 Ceti stars 601, 602, 604-608
  - Non-radial pulsations 601
- Work integral for pulsating stars 437-442
  - Double mode pulsation 441
  
- X Ari 509
- X-ray burst sources 585-589
  - Helium burning 588
  - Relaxation oscillations 589
  - Hot CNO cycle 589
- XX Vir 504
  
- Young stars 265
  
- Zero-age main sequence 265
- ZZ Ceti stars 601, 602, 604-608, 613-619
  - Evolution of white dwarfs 613-619
  - G-mode pulsations 613
  - R-mode pulsations 613