

1. Record Nr.	UNINA9910961926603321
Titolo	High-energy astrophysics : American and Soviet perspectives : proceedings from the U.S.-USSR Workshop on High-Energy Astrophysics, June 18-July 1, 1989 / / edited by Walter H.G. Lewin, George W. Clark, Rashid A. Sunyaev with Kathleen Kearney Trivers, David M. Abramson ; [sponsored by] Academy of Sciences of the Union of Soviet Socialist Republics, National Academy of Sciences of the United States of America
Pubbl/distr/stampa	Washington, D.C., : National Academy Press, 1991
ISBN	9786610212286 9781280212284 1280212284 9780309567572 0309567572 9780585155593 0585155593
Edizione	[1st ed.]
Descrizione fisica	1 online resource (423 p.)
Altri autori (Persone)	LewinWalter H. G ClarkGeorge W SiuniaevR. A (Rashid Alievich) TriversKathleen Kearney AbramsonDavid M
Disciplina	523.01/9
Soggetti	Nuclear astrophysics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	High-Energy Astrophysics -- Copyright -- Foreword -- Contents -- Instabilities In Sn1987A And Other Supernovae -- ABSTRACT -- INTRODUCTION -- THE NICKEL BUBBLE -- THE LIGHT CURVE -- NONSPHERICAL MODELS -- SNIB AND DIFFUSION MASSES -- REFERENCES -- On The Evolution Of Pulsars -- REFERENCES -- The Spin Down Of The Radio Pulsars. Braking Index -- REFERENCES -- Axially Symmetrical Supernova Remnants -- ABSTRACT -- INTRODUCTION --

SN 1006 AND G296.5 + 10.0 ARE TWO BEST EXAMPLES OF BARREL-LIKE
 SNRS -- NUMERICAL SCHEME AND INITIAL CONDITIONS -- RESULTS
 AND DISCUSSION -- CONCLUSIONS -- REFERENCES -- Neutron
 Starquake Model For Gamma-Ray Bursts -- ABSTRACT --
 INTRODUCTION -- GAMMA RAY BURSTS FROM OLD NEUTRON STARS --
 STRUCTURE OF YOUNG NEUTRON STAR CRUSTS -- SLOW ACCRETION
 AND CRUSTAL LOADING -- ELASTIC RAYLEIGH-TAYLOR INSTABILITY
 AND STARQUAKES -- SEISMIC WAVES -- MAGNETOSPHERIC ALFVEN
 WAVES -- EMISSION OF GAMMA RAYS -- OBSERVATIONAL
 IMPLICATIONS -- ACKNOWLEDGEMENTS -- REFERENCES -- The Shock
 Breakout In SN1987A Modelled With The Time-Dependent Radiative
 Transfer -- ABSTRACT -- REFERENCES -- Manifestations Of Dynamo
 Driven Large-Scale Magnetic Field In Accretion Disks Of Compact
 Objects -- ABSTRACT -- BIMODAL ACCRETION ON CYGNUS X-1 --
 ASYMMETRIC DISK ACCRETION ONTO MAGNETIZED ROTATING
 COMPACT STARS -- REFERENCES -- Turbulization Of Shear Flows In
 Astrophysics -- INTRODUCTION -- LINEAR THEORY OF PERTURBATION
 -- QUALITATIVE SCENARIO OF TURBULIZATION -- REFERENCES --
 Regular Variability Of The Shape Of The Primary Minimum Of The
 Orbital Light Curve Of Ss 433 With The Phase Of The... -- Chaotic
 Inflationary Universe And The Anisotropy Of The Large-Scale Structure
 -- INTRODUCTION -- FLUCTUATIONS ON THE INHOMOGENEOUS
 BACKGROUND -- PRIMORDIAL FLUCTUATIONS SPECTRUM -- CHAOTIC
 INFLATION -- ANISOTROPY OF THE LARGE-SCALE STRUCTURE --
 DISCUSSION -- ACKNOWLEDGEMENTS.
 REFERENCES -- The Cyclotron Absorption Line And Eclipse Transition
 Phenomena Of 4u 1538-52 -- ABSTRACT -- REFERENCES -- Radio
 Telescopes As The Detectors Of Super-High-Energy Neutrinos --
 REFERENCES -- Optical Observations Of Active Galactic Nuclei --
 ABSTRACT -- BASIC OBSERVATIONS AND THE STANDARD MODEL --
 COMPLICATIONS TO THE STANDARD MODEL -- SPATIALLY VARIABLE
 IONIZATION PARAMETER -- Ultra-High And Intermediate Densities --
 Anisotropic Ionizing Radiation -- LOW-LUMINOSITY SEYFERT 1 NUCLEI
 -- Searching For Broad H Emission -- A Seyfert 1 Nucleus In A Dwarf Sd
 Galaxy -- Warmers: A Different Point Of View -- ACKNOWLEDGMENTS
 -- REFERENCES -- On Two-Dimensional Relativistic Stellar Winds --
 REFERENCES -- Cluster Research With X-Ray Observations --
 ABSTRACT -- INTRODUCTION -- X-RAY LUMINOSITY FUNCTION --
 INTERPRETATION OF THE LUMINOSITY FUNCTION -- FUTURE SURVEYS
 -- SUMMARY -- REFERENCES -- Observations of X-Ray Pulsars From
 The Kvant Module -- INTRODUCTION -- CRAB NEBULA PULSAR
 OBSERVATIONS -- HERCULES X-1 -- SMC X-1 -- CENTAURUS X-3 --
 VELA X-1 -- A0535+26 -- REFERENCES -- Generation Of Ultrahigh-
 Energy Gamma Rays In Accreting X-Ray Pulsars -- ABSTRACT --
 INTRODUCTION -- MECHANISM OF THE CONVERSION OF
 GRAVITATIONAL ENERGY TO ULTRA-RELATIVISTIC PROTON ENERGY --
 PROTON ACCELERATION TO ULTRARELATIVISTIC ENERGIES IN THE
 REGION OF THE "LOSS CONE" TYPE INSTABILITY GENERATION --
 OBSERVATIONAL CONSEQUENCES OF THE PROPOSED MECHANISM --
 REFERENCES -- Can A Man-Made Universe Be Achieved By Quantum
 Tunneling Without An Initial Singularity? -- ABSTRACT -- THE COSMIC
 COOKBOOK -- PROPERTIES OF THE FALSE VACUUM -- THE NEW
 INFLATIONARY UNIVERSE -- EVOLUTION OF A FALSE VACUUM BUBBLE
 -- CAN ONE IN PRINCIPLE CREATE AN INFLATIONARY UNIVERSE IN THE
 LABORATORY? -- ACKNOWLEDGMENTS -- REFERENCES -- On The
 Origin Of The Diffuse X-Ray Background -- ABSTRACT --
 INTRODUCTION.
 DATA ANALYSIS -- What Is An IPC Count? -- Solar Scattered X-Rays --

Source Excision -- A Flat-Field Image For The Ipc -- A Determination
 Of The Cosmic Ray Particle Contamination In The Ipc -- THE SPECTRUM
 OF THE X-RAY BACKGROUND -- THE POINT SOURCE CONTRIBUTION --
 THE ORIGIN OF THE X-RAY BACKGROUND -- ACKNOWLEDGMENTS --
 REFERENCES -- Gravitational Lenses: The Current Sample, Recent
 Results, And Continuing Searches -- MICROLENSING: MEASURING THE
 MASS FUNCTION OF A GALAXY AND THE SIZE OF A QUASAR? -- DO
 COSMIC STRINGS EXIST? -- MASS-TO-LIGHT RATIO MEASUREMENTS IN
 GALAXIES -- ACKNOWLEDGMENT -- REFERENCES -- Cosmic Gamma-
 Ray Bursts -- ABSTRACT -- INTRODUCTION -- TIME HISTORIES --
 ENERGY SPECTRA -- QUIESCENT COUNTERPART SEARCHES --
 STATISTICAL PROPERTIES OF GAMMA-BURSTERS -- THE SOFT GAMMA
 REPEATERS -- DISCUSSION AND CONCLUSIONS -- REFERENCES --
 Georgian Space Research Program -- ABSTRACT -- INTRODUCTION --
 TELESCOPE-SPECTROMETER TAMARA (FIGURE 2) -- TELESCOPE-
 SPECTROMETER NINO (FIGURE 3) -- REFERENCES -- On The Nature Of
 Pulsar Radiation -- INTRODUCTION -- THE PULSE RADIATION
 MECHANISMS -- APPLICATION TO THE CENTRAL OBJECT IN SN1987A
 REMNANT -- REFERENCES -- Observing Sn 1987a With The
 International Ultraviolet Explorer -- INTRODUCTION -- OBSERVATIONS
 -- THE INTERSTELLAR MEDIUM TOWARDS SN 1987A --
 CIRCUMSTELLAR MATTERS -- THE ULTRAVIOLET ECHO? -- FUTURE
 OBSERVATIONS OF SN 1987A -- REFERENCES -- Quasi-Periodic
 Oscillations in Low-Mass X-ray Binaries -- REFERENCES -- The
 Evolution Of The Gravitational Radiation From Stellar Components Of
 Galaxies -- ABSTRACT -- INTRODUCTION -- THE METHOD OF
 CALCULATION OF GW EVOLUTION -- RESULTS -- ACKNOWLEDGEMENTS
 -- REFERENCES -- Close Binary Stars In Globular Clusters -- ABSTRACT
 -- INTRODUCTION -- Searches For Evolved Globular Cluster Binaries --
 An Eclipsing Blue Straggler In A Globular Cluster.
 FAINT MAIN SEQUENCE BINARIES IN GLOBULAR CLUSTERS --
 CONCLUSION -- ACKNOWLEDGEMENTS -- REFERENCES -- The Large-
 Scale Surface Brightness Distribution Of The X-Ray Background --
 INTRODUCTION -- RECENT RESULTS ON "STRUCTURES" IN THE X-RAY
 BACKGROUND -- Heao-1 A-2 Capabilities -- Galactic Component --
 The Great Attractor Region -- Superclusters -- OTHER STRUCTURES --
 FUTURE WORK -- ACKNOWLEDGEMENTS -- REFERENCES -- X-Ray
 Emission From Active Galactic Nuclei -- INTRODUCTION -- THE FORM
 OF THE CONTINUUM -- E < -- 10 Kev -- The Continuum From 10-
 100 Kev -- X-RAY SPECTRAL FEATURES -- TIME VARIABILITY --
 REFERENCES -- On The Observational Appearances Of A Freely
 Precessing Neutron Star In Hercules X-1 -- ABSTRACT --
 INTRODUCTION -- PERIOD DERIVATIVE OF THE PULSAR DUE TO FREE
 PRECESSION -- OPTICAL LIGHT CURVES HZ HER IN THE MODEL OF A
 FREELY PRECESSING NEUTRON STAR -- DISCUSSION -- CONCLUSIONS
 -- ACKNOWLEDGEMENTS -- REFERENCES -- The PSR 2127+ 12 As An
 Indicator Of A Massive Black Hole In The Core Of Globular Cluster M 15
 -- ABSTRACT -- INTRODUCTION -- DYNAMICAL EFFECTS OF THE MEAN
 CORE POTENTIAL -- ACCELERATION IN A NEARBY STAR POTENTIAL --
 OTHER SOURCES OF ABNORMAL TIMING -- i) Gravitational Lensing -- ii)
 The Neutron Star Precession -- PULSAR MOTION IN THE POTENTIAL OF
 COLLAPSED CORE -- CONCLUSIONS -- ACKNOWLEDGEMENTS --
 REFERENCES -- The Formation And Evolution Of Domain Walls --
 INTRODUCTION -- ACKNOWLEDGMENTS -- REFERENCES -- A Statistical
 Analysis Of Gamma-Ray Bursts Detected By The Konus Experiment On
 Venera 11 And 12 -- ABSTRACT -- INTRODUCTION -- THE V/VMAX
 TEST -- DERIVATION OF V/VMAX FROM THE KONUS DATA --
 CONCLUSION -- REFERENCES -- Extragalactic X-Ray Source Counts --

ABSTRACT -- INTRODUCTION -- DERIVATION OF LUMINOSITY
FUNCTION -- DERIVATION OF SOURCE COUNTS -- TWO COMPLETE X-
RAY SAMPLES -- SOURCE COUNT PROGNOSIS -- DISCUSSION --
REFERENCES.

Ultraluminous Infrared Galaxies -- ABSTRACT -- INTRODUCTION --
THE IRAS SKY SURVEY -- THE LOCAL UNIVERSE IN THE INFRARED --
ULTRALUMINOUS INFRARED GALAXIES -- COLLIDING GALAXIES
FORMING QUASARS? -- CONCLUSIONS -- ACKNOWLEDGEMENTS --
REFERENCES -- The Peculiar Velocity Field Predicted From The
Distribution Of Iras Galaxies -- ABSTRACT -- THE IRAS SAMPLE -- THE
PREDICTED PECULIAR VELOCITY FIELD -- COMPARISON WITH THE
OBSERVED PECULIAR VELOCITY DATA -- COMPARISON WITH N-BODY
MODELS -- UNRESOLVED ISSUES, AND THE WORK AHEAD --
ACKNOWLEDGMENTS -- REFERENCES -- X-Ray Radiation From
Supernova 1987a The Results Of The Kvant Module In 1987-1989 --
ABSTRACT -- INTRODUCTION -- MIXING OF RADIOACTIVE ELEMENTS IN
THE EXPANDING ENVELOPE -- ABUNDANCE OF ^{57}Co -- LIMITS ON THE
STELLAR REMNANT LUMINOSITY -- TTM/COMIS UPPER LIMITS ON THE
FLUX FROM SN1987A -- CONCLUSION -- ACKNOWLEDGEMENTS --
REFERENCES -- Basic Physics And Cosmology From Pulsar Timing Data
-- ABSTRACT -- INTRODUCTION -- TESTING RELATIVITY WITH PSR
1913+16 -- THE COSMIC GRAVITATIONAL WAVE BACKGROUND --
ACKNOWLEDGMENTS -- REFERENCES -- Gas Flow And Generation Of X-
Ray Emission In $\text{Wr} + \text{Ob}$ Binaries -- ABSTRACT -- INTRODUCTION --
CLASSIFICATION OF THE GAS FLOW IN $\text{WR} + \text{OB}$ BINARIES -- COLLISION
OF WR STELLAR WIND WITH OB STAR SURFACE -- COLLISION OF
SUPERSONIC WINDS -- INTERPRETATION OF THE V 444 CYGNI X-RAY
EMISSION -- REFERENCES -- Hydrodynamic Study Of Supernova 1987a:
The Phase Of A Wave Of Cooling And Recombination -- ABSTRACT --
REFERENCES -- Appendix List Of Workshop Presentations.

Sommario/riassunto

During the past decade, the field of astrophysics has progressed at an impressive rate. This was reflected by the topics discussed at the workshop from which this book emanated. These topics include the inflationary universe; the large-scale structure of the universe; the diffuse X-ray background; gravitational lenses, quasars and active galactic nuclei; infrared galaxies; results from infrared astronomical satellites; supernova 1987A; millisecond radio pulsars; quasi-periodic oscillations in the X-ray flux of low-mass X-ray binaries; and gamma-ray bursts.
