

SUPERNOVA REMNANTS III

AN ODYSSEY IN SPACE AFTER STELLAR DEATH

9-15 June 2024, Chania, Crete, Greece



POSTERS BOOK

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Venue: Minoa Palace Resort & Spa (Imperial Main Hall)

A conference organized by the National Observatory of Athens, Greece

CONFERENCE POSTERS

Session 1: Populations/Surveys and Classifications of SNRs and SNe

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|-------|----------------------|---|
| S1.1 | F. Bocchino | GalRSG: A long-term monitoring campaign of Galactic Red Supergiants and the quest for SN explosions' premonitory signs |
| S1.2 | F. Bocchino | Search for Gamma-ray emission from SNRs in the Large Magellanic Cloud: Preliminary results of a new cluster analysis at energies above 4GeV |
| S1.3 | C. Burger-Scheidlin | Gamma-ray detection of newly discovered Ancora supernova remnant: G288.8-6.3 |
| S1.4 | A. Castrillo | Supernova remnant catalog in the PHANGS survey |
| S1.5 | M. Filipovic | Mysterious Odd Radio Circle near the Large Magellanic Cloud - An Intergalactic Supernova Remnant? |
| S1.6 | B. Gamache | Characterization of M51 supernovae remnants with SITELLE |
| S1.7 | D. A. Green | Galactic Supernova Remnants catalogues: since 1984 |
| S1.8 | A. Ingallinera | Studying SNRs and their environment with high-resolution radio spectral index maps |
| S1.9 | A. Khokhriakova | SNR G321.3-3.9 observed with multi-band radio data and SRG/eROSITA |
| S1.10 | I. Leonidaki | Disentangling the evolutionary paths of Supernova Remnants: observational evidence of (non) multi-wavelength emission |
| S1.11 | I. Leonidaki | A systematic meta-analysis of physical parameters of Galactic SNRs |
| S1.12 | T.-X. Luo | Investigation of Galactic supernova remnants and their environment in $26.6^\circ < l < 30.6^\circ$, $ b \leq 1.25^\circ$ using radio surveys |
| S1.13 | S. Mantovanini | Low radio frequency images of the southern Galactic plane for supernova remnant detection |
| S1.14 | M. Michailidis | X-ray counterpart detection and gamma-ray analysis of the SNR G279.0+01.1 with eROSITA and Fermi-LAT |
| S1.15 | R. Kothes | An L-band Panoramic View of Galactic Supernova Remnants with the Australian SKA Pathfinder |
| S1.16 | S. Panjkov | The Effects of Metallicity on the LMC Core-Collapse Progenitor Mass Distribution |
| S1.17 | N. O. Pinciroli Vago | DeepGraviLens: a multi-modal architecture for classifying gravitational lensing data |
| S1.18 | Z. Smeaton | Discovery of new, young Galactic SNR: Perun (G329.9-0.5) |

Session 2: SNe and SNRs with Circumstellar Interactions

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|------|-----------------|--|
| S2.1 | M. Arias | Probing supernova remnant VRO 42.05.01's progenitor properties with IRAM 30m observations |
| S2.2 | R. Baer-Way | A multi-wavelength autopsy of the interacting SN 2020ywx |
| S2.3 | M. Chatzopoulos | Radiative Transfer Modeling of Astrophysical Transients Powered by Circumstellar Interaction |
| S2.4 | W.-Y. Chen | Multidimensional Radiation Hydrodynamics Simulations of Supernova 1987a Shock Breakout |
| S2.5 | W.-Y. Chen | 2D Rad-Hydro Shock Breakout Simulations on RSG with CSM |
| S2.6 | A. Chrimes | Clues (and conundrums) from the circumstellar media around extreme extragalactic transients |

SUPERNOVA REMNANTS III: AN ODYSSEY IN SPACE AFTER STELLAR DEATH

S2.7	T. Court	Type Ia Supernova Remnants in Circumstellar Environments
S2.8	J. Horvat	An XMM-Newton study of several nonradiative filaments in the northeastern rim of the Cygnus Loop
S2.9	M. Ichihashi	The thermal relaxation process in collisionless shock of SN1006
S2.10	W. Jacobson-Galan	Final Moments: Observational Properties and Physical Modeling of “Flash Spectroscopy” Supernovae
S2.11	B. Liu	Investigation into SNR-accelerated CRs at the prospect of future MeV gamma-ray detectors
S2.12	L.-D. Liu	Light curves of Multiple Ejecta-circumstellar Medium Interactions
S2.13	E. Makarenko	How do supernova remnants cool? Morphology and optical emission lines
S2.14	M. Matsuura	Infrared emission of supernova remnants in the Small Magellanic Cloud
S2.15	A. Mercuri	Spectral Analysis of Chandra data on selected regions of the Supernova Remnant Cassiopeia A
S2.16	T. Murase	Molecular Clouds associated with middle-aged gamma-ray Supernova Remnants W41 and G22.7-0.2
S2.17	A. Nagy	How can circumstellar interaction explain the special light curve features of Type Ib/c supernovae?
S2.18	S. Orlando	Constraining the CSM structure and progenitor mass-loss history of SN 2014C through 3D hydrodynamic modeling
S2.19	B. H. Pál	A possible circumstellar interaction of SN2004gq
S2.20	O. Petruk	Density and magnetic field gradients in Tycho SNR
S2.21	G. Prete	Interaction of a Supernova Remnant with background interstellar turbulence
S2.22	L. Sun	Probe charge exchange, resonant scattering and Galactic hot ISM absorption in Magellanic Cloud supernova remnants with high-resolution X-ray spectroscopic study of oxygen lines
S2.23	I. Sushch	Role of reflected shocks in particle acceleration in supernova remnants
S2.24	A. Suzuki	Multi-dimensional simulations of interaction-powered supernovae
S2.25	H. Suzuki	Global and Rapid Deceleration of X-Ray Knots and Rims of RCW 103
S2.26	K. Tsuge	Shocked Molecular Clouds in the LMC SNR N132D Revealed by ALMA ACA
S2.27	S. Ustamujic	Modeling the mixed-morphology supernova remnant VRO 42.05.01

Session 3: SN/SNR Progenitors, Central Engines, Explosion Models

S3.1	E. Abdikamalov	Exploring supernova gravitational waves with machine learning
S3.2	M. Anazawa	Estimation of progenitor of Keplers SNR with precision X-ray spectroscopic analysis
S3.3	B. Arbutina	Modeling Binary Systems That Survive Supernova Explosions and Give Rise to Gravitational Waves
S3.4	B. Barna	Different, but still same: on the common(?) origin of the peculiar Type Iax SNe
S3.5	E. Batziou	The Long-time Evolution of Accretion-Induced Collapse of White Dwarfs to Neutron Stars
S3.6	Z. R. Bodola	Massive Progenitor Parade of Stripped-Envelope Supernovae

SUPERNOVA REMNANTS III: AN ODYSSEY IN SPACE AFTER STELLAR DEATH

- S3.7 A. Z. Bonanos Evidence for episodic mass loss in red supergiants from the ASSESS project
- S3.8 K. A. Bostroem Considering the Single and Binary Origins of the Type IIP SN 2017eaw
- S3.9 M. Bugli Numerical models of magneto-rotational supernovae: dynamics, multi-messenger signals, and explosive nucleosynthesis
- S3.10 M. Bugli 3D MHD core-collapse supernovae code comparison: the impact of numerics on central engine's simulations
- S3.11 E. Christodoulou Obtaining accurate parameters of Type IIP progenitors in NGC 6822, IC 10 & WLM
- S3.12 L. Dang Typing supernova remnant G352.7-0.1 using XMM-Newton X-ray observations
- S3.13 B. Dinçel Possible pre-supernova binary companion to the progenitor of the supernova remnant IC 443
- S3.14 O. Eggenberger Andersen Black Hole Supernovae and their Equation-of-state Dependence
- S3.15 J. I. Gonzalez-Hernandez Searching for surviving stellar companions of historical galactic type Ia supernovae
- S3.16 A. Holas Electron-capture supernovae - Thermonuclear explosion or gravitational collapse? - The fate of sAGB stars on a knife's edge
- S3.17 C. M. Irwin An unexplored regime of shock breakout: the effect of rapid thermalization on the observed spectrum
- S3.18 M. Kalitsounaki Discovery of an extreme Red Supergiant in the LMC transitioning to a Blue Supergiant
- S3.19 E. Kasdagli Improving Supernova Prescriptions in Binary Population Synthesis Using Detailed Stellar Profiles
- S3.20 J. Luo 3D Simulation of SN~Ia SNR: Effects of Companion Star and Progenitor System
- S3.21 K. Matsunaga Formation of Mg-rich SNRs by shell merger and its effect on the explodability
- S3.22 G. Munoz-Sanchez [W60] B90: a mass-losing luminous RSG in the LMC interacting with the CSM
- S3.23 T. Narita Progenitor constraint with CNO abundances of circumstellar material in supernova remnants
- S3.24 Z. Niu The binary progenitor for Type IIP supernovae
- S3.25 C. Omand Probing Energetic Infant Pulsars with Supernova Emission Lines
- S3.26 K.-C. Pan Stellar Mass Black Hole Formation and Multimessenger Signals from Core-collapse Supernova Simulations
- S3.27 G. Pignata Three years observations of the nearby type II SN2008bk
- S3.28 A. Rest The Historic Light Curve of Eta Car's Great Eruption from its Light Echoes
- S3.29 P. Ruiz-Lapuente SN Ia supernova remnant with M dwarf companions
- S3.30 R. Sawada '56Ni problem' in Canonical Supernova Explosion
- S3.31 M. Shahbandeh The Life Story of Stripped-Envelope Supernovae as told through JWST Observations
- S3.32 M. Solar Binary progenitor systems for Type Ic supernovae
- S3.33 T. Tanaka Expansion Measurements of Tycho's Supernova Remnant and Their Implications of the Progenitor System
- S3.34 H. Uchida Possible evidence of a jet-induced explosion found from X-ray and radio observations of a peculiar SNR G0.61+0.01
- S3.35 J. Weng Upper Limits of ⁴⁴Ti Decay Emission in Four Nearby Thermonuclear Supernova Remnants

Session 4: SNR Structure, Ejecta and Evolution

S4.1	M. Agarwal	X-ray diagnostics of Cassiopeia A's "Green Monster": evidence for dense shocked circumstellar plasma
S4.2	S. Akras	Spectroscopic analysis tool for INTEGRAL field unit data cubes (SATELLITE): The case of SNR 0509-68.7
S4.3	M. Anđelić	On the origin of the North Polar Spur
S4.4	Y. Chen	A Monte-Carlo Simulation on Resonant Scattering of X-ray Line Emission in Supernova Remnants
S4.5	Y.-H. Chi	Thermal X-ray Emission in the Western Half of the LMC Superbubble 30 Dor C
S4.6	P. Das	Observational Study of the Reversed Shocked Ejecta in SNR 0509-67.5
S4.7	D. Dickinson	High Resolution Mapping of the Unshocked Ejecta in Cassiopeia A
S4.8	M. Fontaine	Theoretical and Experimental Simulations of Colliding Blast Waves
S4.9	B. Giudici	Hydrodynamic instabilities in three-dimensional simulations of neutrino-driven CCSNe from red supergiant progenitors
S4.10	R. Giuffrida	Measuring the initial mass of ^{44}Ti in SN 1987A through the ^{44}Sc emission line
S4.11	L. Godinaud	Mapping the 3D dynamics and spectral properties of Tycho's SNR in X-rays
S4.12	T. Ko	The multi-layer structure of SNR 1181 with a white dwarf in its center
S4.13	B.-C. Koo	JWST Observations of the Cassiopeia A Supernova Remnant: Near-Infrared Colors of Supernova Ejecta
S4.14	D. Leahy	On emission measures and element densities and masses inferred from XSPEC
S4.15	D. Leahy	Models for supernova remnants with reverse shock emission
S4.16	E. Makarenko	Thermal X-ray emission from supernova remnants in 3D (M)HD simulations
S4.17	S. Mandal	Measurement of anisotropies in observed Supernova Remnants and their interpretation using hydrodynamical models
S4.18	M. Ono	Molecular formation in the ejecta of SN 1987A based on three-dimensional hydrodynamical models
S4.19	S. Panjkov	Morphological Insights into the SN progenitors of the Small Magellanic Cloud
S4.20	G. Payli	Investigation of supernova remnant IC 443 and G189.6+3.3 with LAMOST
S4.21	L. Romano	Cloud Formation by Supernova Implosion
S4.22	V. Sapienza	Probing Shocked Ejecta in SN 1987A: A novel diagnostic approach using XRISM-Resolve
S4.23	N. Sanches Sartorio	New Analytical Solutions for Supernova Shocks
S4.24	L. Sun	Evolution of X-ray Gas in SN 1987A from 2007 to 2021: Ring Fading and Ejecta Brightening Unveiled through Differential Emission Measure Analysis
S4.25	J. C. Toledo-Roy	Simulated non-thermal emission of the supernova remnant G1.9+0.3
S4.26	D. Urošević	A method for determination of evolutionary status of supernova remnants from radio data
S4.27	B. van Baal	Nebular Phase Stripped Envelope Supernovae in 3D

- S4.28 K. Vargas Rojas Study of non-thermal emission of Kepler's SNR with MHD numerical simulations.

Session 5: Shock Physics, Particle Acceleration, Polarization in SNRs and PWNe

- S5.1 F. Acero How I learned to stop trusting my X-ray spectral best fits and love nested sampling
- S5.2 B. Ball Radio Polarization Studies of Galactic Supernova Remnants with ASKAP
- S5.3 D. Castro The Expansion and Width of the Synchrotron Filaments Associated with the Forward Shocks of SNRs
- S5.4 L. Del Zanna Relativistic MHD turbulence simulations and synchrotron polarization properties of Pulsar Wind Nebulae
- S5.5 R. Ferrazzoli Discovery of a shock-compressed magnetic field in the NW rim of the young SNR RX J1713.7-3946 with X-ray polarimetry
- S5.6 R. Giuffrida Evidence for proton acceleration and escape from the Puppis A SNR using Fermi-LAT observations
- S5.7 E. Greco Jitter radiation as an alternative mechanism for the nonthermal emission in Cassiopeia A
- S5.8 J. Hewitt Resolving the gamma-ray supernova remnant IC 443 with Fermi LAT and VERITAS
- S5.9 J. Hewitt Two new radio-dim, gamma-ray-bright supernova remnants
- S5.10 S. Knežević Shock geometry and physics in the supernova remnant SNR 0509-67.5
- S5.11 P. Kostić Kinetic-based CFD modeling of synchrotron emission spectra at fast SNRs
- S5.12 Y. Ohshiro A self-consistent model of shock-heated plasma in non-equilibrium states for direct parameter constraints from X-ray observations
- S5.13 V. Sapienza Time evolution of the synchrotron X-ray emission in Kepler's SNR: the effects of turbulence and shock velocity
- S5.14 X. Shi The production of unstable cosmic-ray isotopes in supernovae clusters
- S5.15 J. D. Slavin Modeling Shock Emission Including Dust Destruction
- S5.16 K. Stasiewicz Reinterpretation of the Fermi acceleration of cosmic rays in terms of the ballistic surfing acceleration in supernova shocks
- S5.17 S. J. Tanaka A Self-regulated Stochastic Acceleration Model of Pulsar Wind Nebulae
- S5.18 D. Tateishi Suzaku/XIS study of the acceleration environment of bilateral SNR RX J0852.0-4622
- S5.19 S. Ustamujic Modeling the supernova remnant RX J1713.7 - 3946: particle acceleration, gamma-ray emission, and neutrino flux

Session 6: SN/SNR dust, environments, feedback

- S6.1 N. Izumi CI/CO abundance ratio of shock-excited gas in the Magellanic Supernova Remnant N63A
- S6.2 F. Kirchschrager Dust destruction in the clumpy remnant Cassiopeia A: impact of inhomogeneous dust distributions
- S6.3 N. Sanches Sartorio The impact of CSM properties on the dust destruction by supernovae forward shocks

SUPERNOVA REMNANTS III: AN ODYSSEY IN SPACE AFTER STELLAR DEATH

S6.4	H. Sano	ALMA Observations of Supernova Remnant N49 in the Large Magellanic Cloud. II. Non-LTE Analysis of Shock-heated Molecular Clouds
S6.5	T. Scheffler	Dust destruction by supernova remnant forward shocks in a turbulent interstellar medium
S6.6	A. Singleton	Constraining the progenitor properties of the Type Ib supernova iPTF13bvn through its environment with HST and MUSE
S6.7	D. Souropanis	Time-dependent feedback of core-collapse supernovae from binary progenitors via detailed binary population synthesis models
S6.8	T. Tu	A Yebes W band Line Survey towards an Unshocked Molecular Cloud of Supernova Remnant 3C391: Evidence of Cosmic-Ray-Induced Chemistry
S6.9	R. Wesson	The slow formation of dust by core collapse supernovae
S6.10	M. Zhang	Not gone with the wind: survival of high-velocity molecular clouds in the Galactic Centre
S6.11	Q. Zhang	A molecular line survey toward clumps G and E in supernova remnant IC 443 with the Submillimeter Array
S6.12	Z. Zhang	Estimation of the Dust Mass with Infrared Emission and Extinction of the Supernova Remnants: G156.2+5.7, G109.1-1.0, G166.0+4.3, G93.7-0.2
S6.13	S. Zsíros	Disentangling possible dust components of core-collapse supernovae within a Bayesian framework

Session 7: PWN Diversity; Structures, Bowshocks and Magnetar Wind Nebulae

S7.1	J. Alford	Cosmic Ray Leptons Escaping from CTA 1?
S7.2	Y. Chen	“Mirage” and large offsets in the data as a result of asymmetric CR diffusion
S7.3	L. V. da Conceição	Using CFHT’s SHELLE to probe the long-sought shell in the Crab nebula
S7.4	S. Gagnon	Chandra X-ray Observations of PSR J1849-0001 and its Pulsar Wind Nebula
S7.5	X. Li	An Exploration of Misaligned Outflows in Pulsar Wind Nebulae
S7.6	S. Mandal	Diagnosis of Pulsar Wind Nebula dynamics using their filamentary structure
S7.7	K. Yan	Pulsar halos as an origin of the Galactic diffuse TeV-PeV emission: Insight from LHAASO and IceCube

Session 8: SNRs and PWNe as PeVatrons

S8.1	R. Brose	Fast Blue Optical Transients as cosmic-ray sources
S8.2	R. Diesing	The Maximum Energy of Shock-Accelerated Cosmic Rays
S8.3	Y. Gallant	Pulsar Wind Nebulae and their halos observed in TeV and PeV gamma rays
S8.4	S. Lazarevic	Radio-continuum view of PeVatrons
S8.5	Y. Li	Multi-Messenger Modeling of the Monogem Pulsar Halo
S8.6	B. Mac Intyre	The Manatee Nebula W50-SS433: a Galactic PeVatron?
S8.7	I. Sander	Pulsar Wind Nebulae and PeVatrons: A Case Study of PWN G309.92-2.51

SUPERNOVA REMNANTS III: AN ODYSSEY IN SPACE AFTER STELLAR DEATH

- S8.8 N. Tsuji Search for molecular clouds associated with PeVatrons by the Nobeyama 45-m radio telescope: the case of LHAASO J0341+5258
- S8.9 J. Woo Revisiting Cassiopeia A after a decade: the first spatially resolved synchrotron X-ray variability above 15 keV by NuSTAR

Session 9: SNR/PWN/Compact Objects Associations, Interaction and Evolution

- S9.1 J. Ahlvind Late-time X-ray observations Core-Collapse Supernovae - constraints on emission from compact objects and CSM interaction
- S9.2 A. M. Moaz Multi-Wavelength Modelling of the Pulsar Wind Nebulae Kes 75 & HESS J1640-465
- S9.3 J. Suherli A-MUSE-ing Views of the Central Environment of the Vela Jr. and 1E0102-72.3 Supernova Remnants



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