

Preface .....	xiii
Organizing committee .....	xv
Conference photograph .....	xvi
Conference participants .....	xvii

## INTRODUCTION

Scope of this Symposium.....	3
<i>E.J.A. Meurs</i>	

## Session 1. KEY SOURCE CATEGORIES IN OUR GALAXY

Key Source Categories in the Galaxy .....	7
<i>P.J. Callanan</i>	
High-Energy Emission from Supernova Remnants .....	16
<i>J. Vink</i>	
Detection of Nonthermal X-ray structures near the Galactic Center with Chandra	24
<i>A. Senda et al.</i>	
A new age and distance indicator of SNRs with nonthermal X-ray filaments....	29
<i>A. Bamba et al.</i>	
A Detailed Observation of a LMC SNR, DEM L241, with XMM-Newton .....	31
<i>A. Bamba et al.</i>	
Discovery and study of the accreting pulsar 2RXP J130159.6-635806.....	33
<i>M. Chernyakova et al.</i>	
Colliding Wind Binary X-ray Sources .....	35
<i>M.F. Corcoran et al.</i>	
Spin changes in X-ray pulsars .....	37
<i>H.-L. Dai &amp; X.-D. Li</i>	
High-Energy Astrophysics with Lobster Eye X-ray ASM .....	39
<i>R. Hudec et al.</i>	
HMXBs in the Galaxy and the MCs .....	41
<i>Q.Z. Liu</i>	
Astrometric detection of Neutron Star Companions to High Mass X-ray Binaries	43
<i>C.Ó Maoiléidigh et al.</i>	
X-ray hardness ratios for stars of different spectral types .....	45
<i>E.J.A. Meurs et al.</i>	
Long-term activity of the Rapid Burster .....	47
<i>V. Šimon</i>	
The Be/X-ray transient HD34921.....	49
<i>V.F. Polcaro et al.</i>	
<i>The possible explanation of low-frequency noise of pulsars in globular clusters</i>	51

<i>The possible explanation of low-frequency noise of pulsars in globular clusters... T.I. Larchenkova &amp; S.M. Kopeikin</i>	61
An Optical Outburst of the Cataclysmic Variable in M22 .....	53
<i>A. Hourihane et al.</i>	
The optical & IR lightcurve of PSR B1957+20.....	55
<i>M.T. Reynolds et al.</i>	
Optical spectroscopy of the 2005 outburst of the X-ray transient XTE J1118+480	57
<i>P. Elebert et al.</i>	
The INTEGRAL Mission – an overview .....	59
<i>P. Kretschmar et al.</i>	
Cataclysmic variables and related objects with INTEGRAL.....	66
<i>V. Šimon et al.</i>	
Scientific results with INTEGRAL.....	70
<i>Th. Courvoisier</i>	
The Swift Mission .....	71
<i>A. Moretti</i>	
<i>XMM-Newton observations of PSR B1259–63 near the 2004 periastron passage .</i>	78
<i>M. Chernyakova et al.</i>	
Optical observations of IGR J00291+5934 in the post outburst phase .....	80
<i>M.T. Reynolds et al.</i>	
Supporting the GLAST User Community .....	82
<i>R. Corbet</i>	
Polarimetry with SPI.....	83
<i>D.R. Willis et al.</i>	
Microquasars .....	85
<i>F. Mirabel</i>	
Gamma-Ray Emission from Microquasars.....	86
<i>M.M. Kaufman Bernadó &amp; G.E. Romero</i>	
Leptonic emission from microquasar jets: from radio to very high-energy gamma-rays.....	91
<i>V. Bosch-Ramon et al.</i>	
INTEGRAL Observations of GRS 1758–258 .....	93
<i>M. Cadolle Bel et al.</i>	
New Results from High-Energy Gamma-Ray Astronomy .....	95
<i>H.J. Völk</i>	
Ground Based Gamma-Ray Astronomy.....	103
<i>P. Cogan et al.</i>	
Status of VERITAS .....	105
<i>M.K. Daniel</i>	
The Search for pulsed TeV gamma-ray sources.....	107
<i>A. McCann et al.</i>	

## Session 2. HIGH ENERGY PROCESSES IN THE

**TGSM**



High-energy radiation generated by winds and shocks: SNRs and superbubbles . . . . .	111
<i>A.M. Bykov</i>	
Recent nucleosynthesis results from INTEGRAL . . . . .	120
<i>G. Weidenspointer</i>	
Diffuse X-ray emission from Galaxies . . . . .	129
<i>A.M. Read</i>	
The X-ray Evolution of Merging Galaxies . . . . .	137
<i>N.J. Brassington et al.</i>	

## Session 3. DETAILED POPULATION STUDIES IN THE NEARER GALAXIES

The X-ray source populations in M31 and M33 . . . . .	145
<i>W. Pietsch</i>	
The Next Nearest Black Holes: Chandra and HST Observations of X-ray sources in M31 . . . . .	154
<i>M. Garcia</i>	
XMM-Newton reveals ~100 new LMXBs in M31 from variability studies . . . . .	155
<i>R. Barnard et al.</i>	
XMM-Newton survey of the Local Group galaxy M33 – catalogue results and global properties . . . . .	160
<i>Z. Misanovic et al.</i>	
XMM-Newton survey of the Local Group galaxy M33 – bright individual sources	162
<i>Z. Misanovic et al.</i>	
Dwarf galaxies of the Local Group . . . . .	164
<i>R. DiStefano et al.</i>	
X-ray Pulsars in the Small Magellanic Cloud . . . . .	170
<i>R. Corbet et al.</i>	
The discovery of X-ray binaries in the Sculptor Dwarf Spheroidal Galaxy . . . . .	175
<i>T. Maccarone et al.</i>	
X-ray Populations in Galaxies . . . . .	180
<i>G. Fabbiano</i>	
The X-ray Population of NGC 300 . . . . .	185
<i>S. Carpano et al.</i>	
Optical Environments of M51 X-ray Sources . . . . .	189
<i>R. Kilgard et al.</i>	
An Unprecedented View of a Galaxy's Dynamic X-ray Source Population . . . . .	193
<i>D. Pooley</i>	
A <i>Chandra</i> Observation of the Nearby Sculptor Group Sd Galaxy NGC 7793 . . . . .	197
<i>T.G. Pannuti et al.</i>	
A Survey of Massive Star Clusters in the X-ray Emission from Spiral Galaxies . . . . .	199
<i>E.M. Schlegel</i>	
Low Mass X-ray Binaries and Globular Clusters in Early-Type Galaxies . . . . .	200

*C.L. Sarazin*

The trail of discrete X-ray sources in the early-type galaxy NGC 4261: anisotropy in the globular cluster distribution .....	205
<i>G. Trinchieri et al.</i>	
Multi-Epoch Observations of LMXBs in Early-type Galaxies .....	210
<i>G.R. Sivakoff et al.</i>	

## Session 4. SOURCE CLASSES THAT EMERGE FROM SAMPLING OVER GALAXIES

Nuclear sources in galaxies .....	217
<i>M. Elvis</i>	
Core X-ray sources in the Local Group Galaxies.....	219
<i>E.J.A. Meurs</i>	
X-ray nuclear emission of a sample of LINER Galaxies .....	223
<i>O. González-Martín et al.</i>	
Very High-Energy Observations of BL Lacs .....	228
<i>J. Quinn et al.</i>	
High-energy emission from flat-spectrum radio sources with $\sim$ kpc-scale structure	233
<i>P. Augusto</i>	
The Central Regions of Galaxies Hosting LINERs as Viewed by Chandra.....	235
<i>H. Flohic et al.</i>	
Blazars - INTEGRAL and Supermassive Black Hole Binaries .....	237
<i>R. Hudec et al.</i>	
Supermassive binary black holes in blazars .....	239
<i>F.M. Rieger</i>	
The X-ray monitoring of quasar 3C273 .....	241
<i>M. Stuhlinger</i>	
GRBs as rare stages of stellar evolution.....	242
<i>E.P.J. van den Heuvel</i>	
GRB observations with INTEGRAL and XMM .....	243
<i>B. McBreen</i>	
Collapsing Stars as Sources of High-Energy Particles and Radiation .....	244
<i>V. Kryvdyk</i>	
Using jet breaks to estimate GRB distances .....	246
<i>P. Ward et al.</i>	
Observing High-Energy Sources with REM: A Facility for Fast GRB Follow-up .	248
<i>P. Ward &amp; E.J.A. Meurs</i>	
INTEGRAL and XMM-Newton observations of GRB 040223 .....	250
<i>S. McBreen &amp; S. McGlynn</i>	
Young X-ray-Emitting Supernovae in Galaxies .....	252
<i>E.M. Schlegel</i>	
Impact of historical Chinese astronomical records on high-energy sources in our Galaxy .....	259

*Galaxy* .....  
*Z. R. Wang*

Supernovae astrophysics from Middle Age documents .....	264
<i>V.F. Polcaro &amp; A. Martocchia</i>	
X-ray emission from Young Supernovae in Starbursts .....	269
<i>L. Norci &amp; E.J.A. Meurs</i>	
Ultra-luminous X-ray Sources .....	271
<i>M. Ward</i>	
Properties of SS433 and Ultra-luminous X-ray sources in external galaxies .....	278
<i>S. Fabrika et al.</i>	
Ultra-luminous Supersoft X-ray Sources in Nearby Galaxies .....	282
<i>A. Kong &amp; R. DiStefano</i>	
Intermediate-Mass Black Hole Candidate ULXs .....	287
<i>J. Miller</i>	
New insights into Ultra-luminous X-ray sources from deep <i>XMM-Newton</i> observations .....	288
<i>T.P. Roberts et al.</i>	
Ultra-luminous X-ray Sources: Bubbles and Optical Counterparts .....	293
<i>M. W. Pakull et al.</i>	
The recurrent Ultra-luminous X-ray transient NGC 253 ULX1 .....	298
<i>M. Bauer &amp; W. Pietsch</i>	
Irradiation models for ULXs and fits to HST observations of NGC 4559 X-7 ...	300
<i>C. Copperwheat et al.</i>	
The Ultra-luminous X-ray Source in Holmberg IX and its Environment .....	302
<i>F. Grisé et al.</i>	
Ultra-luminous X-ray Sources: Evidence for Very Efficient Formation of Population III Stars Contributing to the Cosmic Near-Infrared Background Excess?...	304
<i>H. Mii &amp; T. Totani</i>	
Keck Observations of Candidate Ultra-luminous X-ray Sources .....	306
<i>D.S. Wong et al.</i>	
Search for Serendipitous ULX Candidates in <i>XMM-Newton</i> Observations .....	308
<i>Y. Xu et al.</i>	
Identification of Optical Counterparts of ULX sources .....	310
<i>C.M. Gutiérrez &amp; M. López-Corredoira</i>	