

BULLETIN OF THE ASTRONOMICAL SOCIETY OF INDIA

Volume 32
2004



Published by the Astronomical Society of India

BULLETIN OF THE ASTRONOMICAL SOCIETY OF INDIA

Editor : G.C. Anupama, *Indian Institute of Astrophysics, Bangalore 560 034, India*
e-mail: gca@iiap.res.in

Associate Editor : D.J. Saikia, *National Centre for Radio Astrophysics, TIFR, Pune 411 007, India*
e-mail: djs@ncra.tifr.res.in

Editorial Board :

D. Bhattacharya, *Raman Research Institute, Bangalore 560 080, India*
e-mail: dipankar@rri.res.in

R.D. Cannon, *Anglo Australian Observatory, Australia*
e-mail: rdc@aoepp.aao.gov.au

D.A. Green, *Mullard Radio Astronomy Observatory, England, U.K.*
e-mail: D.A.Green@mrao.ac.uk

T.P. Prabhu, *Indian Institute of Astrophysics, Bangalore 560 034, India*
e-mail: tpp@iiap.res.in

Ram Sagar, *Aryabhata Research Institute for Observational Sciences, Naini Tal, India*
e-mail: sagar@upso.ernet.in

K. Subramanian, *Inter-University Centre for Astronomy and Astrophysics, Pune 411 007, India*
e-mail: kandu@iucaa.ernet.in

V. Trimble, *University of Maryland, Maryland &, University of California, Irvine, USA*
e-mail: vtrimble@astro.umd.edu

Editorial Assistance : Sandra Rajiva, *Indian Institute of Astrophysics, Bangalore 560034, India.*
e-mail: sandra@iiap.res.in

The Bulletin of the Astronomical Society of India is a quarterly journal published in English, and appearing in March, June, September and December. The Bulletin publishes original research papers, review articles, reports on scientific meetings, reports from astronomical centres, book reviews, and proceedings. Manuscripts should be sent to the Editor. Instructions to authors, should be strictly followed while preparing the manuscripts. **All enquiries related to the publication of papers should be addressed to basi@iiap.res.in or basi@ncra.tifr.res.in**

Revised Subscription Rate (Includes Airmail charges)		
Annual Rate :	Individuals	Institutions & Libraries
India	Rs. 100	Rs. 500
Foreign	US \$ 50	US \$ 100
Single Issue :		
India	Rs. 50	Rs. 150
Foreign	US \$ 15	US \$ 30

Subscription should be made payable to Astronomical Society of India and sent to Dr. R.C. Kapoor, (rck@iiap.res.in) Treasurer, Astronomical Society of India, Indian Institute of Astrophysics, Bangalore - 560 034, India.

Volume Contents

Number 1

1 **From the President**

RESEARCH ARTICLES

- 3 **Indira Bardoloi and Mon Moyuri Baruah** : Binary accreting neutron star as a source of X-ray transients - Aql X-1, Cen X-4, 1608-522
- 15 **T.K. Das, B.K. De and J. Bhattacharyya** : Different distribution functions of solar X-ray flares
- 25 **B.B. Sanwal, Brijesh Kumar and Mahendra Singh** : Spectrophotometry of the comet C/2002 V1 (NEAT)
- 33 **A. Peraiiah** : Transfer of resonance line radiation in advected atmospheres with partial frequency redistribution of photons
- 59 **Sneh Lata, V. Mohan, A.K. Pandey and Ram Sagar** : CCD photometry of the unstudied galactic star clusters Be 10, Be 67 and To 5

TECHNICAL NOTE

- 75 **Vidhya Vaitheeswaran, U.S. Kamath and Vidya Rangaswamy** : IR-IMAC – A development approach
- 81 **Erratum**
- 83 **Society Matters**

Number 2

85 **New Editorial Board**

86 **From the Editor**

INVITED REVIEW ARTICLE

87 **Virginia Trimble** : Extra-solar system planets : searches, discoveries and characteristics

RESEARCH ARTICLE

99 **P.G.Ananthasubramanian, Satoshi Yamamoto, T.P.Prabhu and Dorje Angchuk** : Measurements of 220 GHz atmospheric transparency at IAO, Hanle, during 2000–2003

RESEARCH NOTE

- 113 **S.M. Sriraghavan, K. Jayakumar, G.S.D Babu and S. Sujatha** : Variation of the Si II features in the chemically peculiar star – HD 115735

TECHNICAL NOTE

- 121 **H.K. Das, Abhay Kohok and S.N. Tandon** : An implementation of transfer-pupil in a spectrograph on optical telescopes

133 HIGHLIGHTS FROM THE OBSERVATORIES

(Compiled by D.J. Saikia)

Number 3

- 139 **From the Editors**

RESEARCH ARTICLES

- 141 **U. S. Pandey** : On gravitating stellar systems I. formulation using distribution function method
- 151 **N. V. Sujatha, Pavan Chakraborty, Jayant Murthy and R. C. Henry** : A model of the stellar radiation field in the UV
- 159 **B. S. Rautela, G. C. Joshi and J. C. Pandey** : ARIES imaging polarimeter
- 169 **Mohsen Nejad-Asghar and Jamshid Ghanbari** : Occurrence of thermal instability in molecular clouds

RESEARCH NOTE

- 185 **P. P. Saxena** : On the possibility of nitrous oxide (N_2O) as a cometary parent molecule in comet 1P/Halley

189 PROCEEDINGS OF THE GS75 MEETING

- 191 **B. C. Joshi, M. A. McLaughlin, A. G. Lyne, M. Kramer, D. R. Lorimer, R. N. Manchester, F. Camilo, M. Burgay, A. Possenti, N. D'Amico, P. C. C. Freire** : Double pulsar system J0737–3039 and its low - frequency observations with GMRT
- 205 **Subhashis Roy** : The Galactic centre region
- 215 **K. S. Dwarkanath** : Kinematics of diffuse interstellar clouds : recent GMRT results

- 223 **Poonam Chandra and Alak Ray** : Baby supernovae through the looking glass at long wavelengths
- 231 **A. Begum and Jayaram N. Chengalur** : GMRT study of extremely faint dwarf irregular galaxies
- 239 **A. Omar** : HI deficiency in groups : what can we learn from Eridanus ?
- 247 **Dharam Vir Lal and A. Pramesh Rao** : Spectral structure of X-shaped radio sources
- 257 **D. Narasimha** : PKS1830-211 : The strongest lensed radio source
- 267 **SOCIETY MATTERS**

Number 4

PROF. M. K. VAINU BAPPU GOLD MEDAL LECTURE

- 269 **Brian P. Schmidt** : Measuring global curvature and cosmic acceleration with supernovae

RESEARCH ARTICLES

- 283 **Abdul Qaiyum** : Intensities of CII and CO lines and emissions from interstellar dust
- 295 **S. Sujatha, G.S.D. Babu and Sharath Ananthamurthy** : UBVRI CCD photometric studies of open clusters Berkely 15, Czernik 18, NGC 2401
- 311 **Arvind Ranade, Ranjan Gupta, N.M. Ashok and Harinder P. Singh** : A near-infrared stellar spectral library : I. H-band spectra
- 335 **D.A. Green** : Galactic supernova remnants : an updated catalogue and some statistics
- 371 **Sneh Lata, V. Mohan and R. Sagar** : CCD photometry of the galactic star clusters Be 15, Be 71 and King 1
- 385 **Paramita Barai, Gopal-Krishna, M. Angela Osterman and Paul J. Wiita** : Expansion of radio galaxies in a cosmologically evolving medium : possible implications for the cosmic star-formation history

395 SOCIETY MATTERS

- 397 Author Index
- 401 Subject Index
- (iii) Volume Contents