Curriculum Vitae — Anjan Ananda Sen

Date of birth
May 17, 1971

Marital Status
Married

Nationality
Indian

Address for Correspondence

Center For Theoretical Physics,
Jamia Milia Islamia,
New Delhi 110025,
India

E-mail: aasen@jmi.ac.in

ACADEMIC QUALIFICATION

Phd in Science from Jadavpur University, Kolkata, India. Degree obtained in 1999 under the supervision of Prof. Asit Banerjee and Prof. Narayan Banerjee. The thesis title is "Some Aspects of Early Universe".

RESEARCH FIELD

Gravitation, Astroparticle Physics and Cosmology.

CURRENT POSITION

Professor at the Center For Theoretical Physics, in Jamia Millia Islamia Central University, New Delhi.

ACADEMIC EXPERIENCE

- **Professor** at **Center For Theoretical Physics at Jamia Millia Islamia**, New Delhi, India from February 2013.
- **Associate Professor** at **Center For Theoretical Physics at Jamia Millia Islamia**, New Delhi, India from February 2010 till February 2013.
- **Reader** at **Center For Theoretical Physics at Jamia Millia Islamia**, New Delhi, India from February 2007 till February 2010.
- **Post Doctoral Fellow** in the **Department of Physics and Astronomy, Vanderbilt University**, in U.S.A from December 2004 to February 2007.
- **Post Doctoral Fellow**, **Instituto Superior Tecnico** in Lisbon, Portugal November 2001 to August 2004.
- **Post Doctoral Fellow** at **Harish-Chandra Research Institute** in Allahabad, India from November 1999 to November 2001.

Research Publications(Source: INSPIRE-HEP)

Total Number of Publications: 84

Average Citation per Paper: 49.9

h-index: 27

Renowned Paper

Generalized Chaplygin gas, acclerated expansion and dark energy matter unification
M.C. Bento, O. Bertolami and A.A. Sen
Physical Review D, **66**, 043507 (2002)
Cited 1326 times

Very Well Known Paper (citation 100 and above): 08
Well Known Paper (citation 50-99): 12
Known Paper (citation 10-49): 42

PARTICIPATION IN BIG PROJECTS

- Member, **International Science Developement Team** on "Fundmental Physics and Cosmology" for **Thirty Meter Telescope (TMT) project**, a joint collaborative project between USA, Canada, Japan, India and China.
- Member, **SKA-India Consortium** and **Indian Science Working Group** on "Epoch of Reionization and Cosmology" for **Square Kilometer Array (SKA) project**.
- Member, **SKA-India Science Committee**.
- Associate Member, **SKA Science Working Group on Cosmology**.
- Member, **IndIGO Consortium (Indian Initiative in Gravitational-Wave Observations)**.

AWARDS and FELLOWSHIPS

- **Visitor Award 2015 by the Honourable President of India for Best Research**.
- **Fellow, National Academy of Sciences, Allahabad, India**
- **Research Associateship at Abdus Salam International Center For Theoretical Physics, Trieste, Italy** during 2009-2016.
- **Research Associateship at IUCAA, Pune**, India from 2007-till date.
- **Visiting Fellowship to the Theory Group at CERN, Geneva, Switzerland** in 2018.
- **Visiting Fellowship to the Theory Group at CERN, Geneva, Switzerland** in 2011.
- **Visiting Fellowship to the Theory Group at CERN, Geneva, Switzerland** in 2009.
- **Visiting Fellowship at Universitat Autonoma de Barcelona, Barcelona, Spain** in 2007.
- **Honorable Mention in the 2003 Essay Contest of the Gravity Reserach Foundation, US**, for the essay "Generalized Chaplygin Gas Model: Dark Energy - Matter Unification and CMBR Constraints" written with M.C. Bento and O. Bertolami.

RESEARCH GRANTS

- **Principal Investigator**
  Type of the Project: National.
  Funding Agency: University Grants Commission, Govt of India
  Title: Accelerating Universe and its Observational Signatures.
  Grant Amount: Rs.5,50,000.00
  Status: Completed

- **Principal Investigator**
  Type of the Project: National.
  Funding Agency: SERC, Dept of Science and Technology, Govt of India
  Title: Astrophysics and Cosmology with Higher Dimensional Theories.
  Co-Investigators: Prof. D. Ghoshal, J.N.University, Delhi and Prof. D. Choudhury, University of Delhi, Delhi
  Grant Amount:Rs.27,14,000.00
  Status: Completed.

- **Co-Investigator**
  Funding Agency: C.S.I.R, Govt of India
  Type of the Project: National.
  Title:Accelerated Expansion of the Universe: Its Origin and Observational Consequences
  Principal Investigator: Prof. T.R. Seshadri, University of Delhi, Delhi
  Grant:Rs. 16,92,000.00
  Status: Completed.

- **Co-Investigator**
  Funding Agency: DST, Govt of India
  Type of the Project: International, Indo-RussianProject
  Title:Inflation and Late Time Acceleration of the Universe and its Observational Signatures
  Principal Investigators:
  Prof. M. Sami, Centre For Theoetical Physics, J.M.I, Delhi
  Prof. A. Kamenschik, Landau Institute of Theoretical Physics, Moscow, Russia Grant:Rs. 14,70,400.00
  Status: Ongoing.

PHD Thesis Supervision

- Dr. N.Chandrachani Devi
  Thesis Title: Issues of accelerating universe in particle physics and cosmology
  Current Status: **Phd Awarded**. Post Doctoral Fellow at UNAM, Mexico.

- Dr. Gaveshna Gupta
  Thesis Title: Dark Side of the Universe and its observational signatures
  Current Status: **Phd Awarded**. D.S.Kothari Fellow at University of Delhi, Delhi.

- Dr. Sumit Kumar
  Thesis Title: Cosmological and Astrophysical Aspects of Einsteinian and Modified Gravity Theories
  Current Status: **Phd Awarded**, Post Doctoral Position at Max-Planck Institute For Gravitational Physics, Hannover, Germany.

- Dr. Wali Hossain (Co-Supervisor)
  Thesis Title:Aspects of Dark Universe in the Modified Theories of Gravity
  Current Status: **Phd Awarded**, Post Doctoral Fellow at APCTP, Phonag, South Korea.

- Dr. Sampurnanand (Co-Supervisor)
  Thesis Title: Cosmology and Particle Physics from Higher Dimensional Theories
  Current Status: **Phd Awarded**, Post Doctoral Fellow at PRL, Ahmedabad.

- Bikas Dinda
  Current Status: **Thesis Submitted**. Offered Post Doctoral Position at Theory Group, Tata Institute of Fundamental Physics (TIFR), Mumbai, India.
- Azam Hossain
  Current Status: Ongoing
- Ruchika
  Current Status: Ongoing
- Mostafizur Rahaman
  Current Status: Ongoing
- Ajay Bassi
  Current Status: Ongoing

Summer/Masters PROJECT SUPERVISION

- Sumit Kumar, Dept of Physics, Jamia Millia Islamia, New Delhi, India in 2010.
- Md. Mustakim, Dept of Physics, Jamia Millia Islamia New Delhi, India in 2012.
- Aswin P Vijayan, National Institute of Technology, Calicut, India in 2013.
- Prashansa Gupta, Indian Institute for Science Education and Research, Mohali, India in 2013.
- Abhishek Jana, Indian Institute for Science Education and Research, Kolkata, India in 2014.

- Harman Deep Kaur, Jamia Millia Islamia, New Delhi, India 2015.
- Vandana Sahdev, Jamia Millia Islamia, New Delhi, India 2015.
- Kanika Saini, Amity University, Noida, India, 2015.
- Amal Jahan, Jamia Millia Islamia, India 2015.
- Tamanna Jain, Miranda College, University of Delhi, Delhi, 2016.
- Naveed Shah, Jamia Millia Islamia, 2016.
- Rounak Sen, IIT Guwahati 2017.
- Suvodeep Sarkar, Jamia Millia Islamia, India 2018.
- Masum Murshiid, Jamia Millia Islamia, India 2018.

TEACHING EXPERIENCE

- Electrodynamics
  M.Sc Course Work at Dept of Physics, JMI

- General Theory of Relativity and Introductory Cosmology
  Phd Course Work at Center for Theoretical Physics, JMI.

- General Theory of Relativity
  M.Sc Course Work at Dept of Physics, JMI.

- Statistical Techniques in Physics
  Phd Course Work at Center for Theoretical Physics, JMI.

- Quantum Field Theory
  Phd Course Work at Center for Theoretical Physics, JMI.

- Advance course on Cosmology
  Phd Course Work at Center for Theoretical Physics, JMI.

- Guest Lecturer
  General Relativity and Cosmology Course
  SERC School on Theoretical High Energy Physics (Preparatory),
  Organised by DST, Govt. of India.
  S.G.B.T. Khalsa College, Delhi (2008).

- Lecturer
  Course on Statistical Technique in Physics
  SERC School on Theoretical High Energy Physics (Preparatory), Organised by DST, Govt. of India at North Bengal University, West Bengal in October 2012.

- Guest Lecturer
  General Relativity and Cosmology Course
  SERC School on Theoretical High Energy Physics (Preparatory), Organised by DST, Govt. of India.
  BITS, Pilani, Goa, (2010).

- Lecturer
  Course on General Relativity and Cosmology
  SERC School on Theoretical High Energy Physics (Preparatory), Organised by SERB, DST, Govt. of India at Indian Institute of Technology, Gandhinagar, Gujrat in September 2016.

- Lecturer
  Course on Statistical Technique in Physics
  SERC School on Theoretical High Energy Physics (Preparatory), Organised by DST, Govt. of India at Hyderabad University, Telengana in August 2018.

- Lecturer
  Course on Dark Energy
  Autumn School on Cosmology
  Organised by BITS, Pilani, Rajasthan, and IUCAA, Pune, India in November 2013.

- Lecturer
  Course on Statistical Techniques in Physics
  UGC-Refresher Course, March-2014
  Organised by Academic Staff College, North Bengal University
  West Bengal, India.

- Lecturer
  Course on Dark Energy
  Winter School on Cosmology (WSC15) Dec2015-Jan2016
  Organised by Indian Statistical Institute, Kolkata
  West Bengal, India.

Selected INVITED TALKS/SEMINARS DELIVERED

- I have delivered an **Invited Lecture** on Dark Energy and Accelerating Universe in the **Department of Physics and Astrophysics, University of Delhi**, in Delhi, India during Visitors Program Celebration in February 2008.
- I have delivered an **Invited lecture** on Brane Inflation at **Indian Institute of Technology, Kharagpur, India** during the Physics of Warped Extra Dimension workshop, in February 2008.
- I have delivered a seminar on Cosmology with non-minimally coupled K-essence during the **CMB-LSS workshop at IUCAA, Pune, India** in August 2008.
- I have delivered a seminar on Dark Energy and Accelerating Universe at **Physical Research Laboratory, Ahmedabad, India**, under TPSC programin February 2009.
- I have delivered a seminar on Thawing Quintessence with Nearly Flat Potentials in the High Energy Division at **Abdus Salam International Center For Theortical Physics, Trieste, Italy** in May 2009.
- I have delivered a seminar on Thawing Quintessence with Nearly Flat Potentials in the **Indian Conference on Cosmology and Galaxy Formation at Indian Institute of Technology, Kanpur** in October, 2009.
- I have delivered an **Invited seminar** on Thawing Quintessence with Nearly Flat Potentials in the **Inaugural IEU Conference on Cosmology and Fundamental Physics at the Institute for Early Universe, Ewha Woman University, Seoul, Korea**, in May 2010.
- I have delivered an **Invited seminar** on Thawing Quintessence with Nearly Flat Potentials in the **Korea Institute For Advanced Science (KIAS) in Seoul, Kora** in May 2010.
- I Have delivered a seminar on Slow-Roll Scalar Field models of dark energy in the Cosmology Group weekly seminar at **Abdus Salam International Center For Theoretical Physics, Trieste, Italy** in July 2010.
- I have delivered an **Invited seminar** on Thawing Dark energy models with nearly flat potentials in the **Theory Group at the Max-Planck Institute For Physics, Munich, Germany** in July 2010.
- I have delivered an **Invited seminar** on Thawing Dark Energy Models with nearly flat potentials in the **Theory Group, Indian Association of Cultivation of Sciences, Kolkata, India** in December 2010.
- I have delivered the **Invited plenary lecture** on Observational Cosmology at the **DAE-HEP Symposium at LNMIIT at Jaipur** in December 2010.

- I have delivered the **Invited plenary lecture** on Understanding the late time acceleration of the Universe in the **IAGRG workshop at HRI, Allahabad**, in January 2011.

- I have delivered the **Invited Institute Seminar** at the **Indian Institute of Science Education and Research, Kolkata, India** on "Understanding the late time acceleration of the universe", in April 2011.

- I have delivered a talk on " GCG Parametrization for Growth Function and Current Constraints" at the **ASI symposium on Cosmology and Galaxy Formation at IISER, Mohali** in November 2011.

- I have delivered a talk on " Pressure Parametrization for Dark Energy" at **ICGC conference at Goa** in December 2011.

- I have delivered an **Invited talk** on "Dark Energy and Late Time Acceleration of the Universe" at **AAPCOS-2012** held at Darrjeeling in March 2012, organised by S.I.N.P., Kolkata.

- I have Delivered an **Invited Colloquium** on "Late Time Acceleration of the Universe and Dark Energy Model Building" at the **Theory Group, T.I.F.R., Mumbai** during May 2012.

- I have delivered an **Invited Lecture** on "Dark Side of the Universe: Era of New Cosmology" during event **"Lectures on Nobel Prizes (2011)" at Indian Institute of Technology, Delhi** on 16th of May 2012.

- I have delivered an **Invited Seminar** on "Late Time Acceleration of the Universe and Dark Energy Model Building" at **E.T.H, Zurich, Switzerland** during July 2012.

- I have delivered an **Invited Seminar** on "Dark Energy Model Building and Observational Signatures" at **I.S.I Kolkata**, India during January 2013.

- I have delivered an **Invited talk** "Dark energy model building and observational issues" at **National Conference on High Energy Physics and Cosmology at University of Guwahati, Guwahati, Assam, India** during 12-14th February 2013.

- I have delivered an **Invited talk** on "Late time acceleration of the Universe: Model building and observational issues" at **Edinburgh Delhi Particle Physics Symposium, New Delhi** during 15-17 February 2013.

- I have delivered an **Invited talk** on"Dark energy model building and observational issues" at **30th Meeting of Astronomical Society of India** during 20-22nd February 2013 at Trivanthapuram, India.

- I have delivered a talk on "Solar System Constraint on Scalar Tensor Theories With Non-standard action" in **GR-20 conference at University of Warsaw, Poland** duirng July 2013.

- I have delivered an **Invited talk** on "Story of Dark Universe" at the **Frontiers in Physics, held at University of Hyderabad, Hyderabad, India** during September 2013.

- I have delivered an **Invited talk** on "Post Planck Dark Energy Constraints" at the **Symposium on Astroparticle Physics and Cosmology, held at Saha Institute of Nuclear Physics, Kolkata, India** during January 2014.

- I have delivered an **Invited talk** on "Dark Energy After Planck" at the conference **Current Trends in Particle Physics Research (CTPPR 2014) at Kalyani University, Kalyani, West Bengal**, India in March 2014.

- I have delivered an **Invited seminar** on "Dark Energy After Planck" at **Institute of Physics, Bhubaneswar, India** in May 2014

- I have delivered an **Invited talk** on "Standard Cosmology Delayed" in the **workshop "Quantum Gravity, Strings and Black Holes" at Kavli Institute of Theoretical Physics, Beijing China** in June 2014.

- I have delivered a talk on "Standard Cosmology Delayed" at **ETH, Zurich** in August 2014.

- I have delivered an **Invited talk** on " Current Status of Dark Energy" in the workshop **"Cosmology at the Interface" at SINP, Kolkata**, India in January 2015.

- I have delivered an **Invited talk** on " Clustering GCG: a viable description for unified dark matter-dark energy?" at **IFIC, University of Valencia**, Valenica, Spain in June 2015.

- I have delivered a seminar on " Standrad Cosmology Delayed" at **High Energy and Cosmology Division, Abdus Salam International Center For Theoretical Physics**, Trieste, Italy in June 2015.

- I have delivered an **Invited talk** on " Inflation on a two brane warped geometry model" at **ETH**, Zurich, Switzerland in July 2015.

- I have delivered an **Invited talk** on " Standrad Cosmology Delayed" at **Discussion meeting on Cosmology and Astroparticle Physics held at Institute of Physics, Bhubaneswar, India** during October-November, 2015.

- I have delivered an **Invited talk** on " Cosmology with invisible Universe " at Workshop on Cosmology, Astrophysics and Computation at Shivaji College, Delhi in February, 2016.

- I have delivered an **Invited talk** on " A new recipe for ΛCDM " at **Theory Group, Saha Institute For Theoretical Physics (SINP), Kolkata**, India in April 2016.

- I have delivered an **Invited talk** on " A new recipe for ΛCDM " at **ETH-Zurich, Switzerland** in May 2016.

- I have delivered an **Invited talk** on "Probing The Invisible Sector At Large Cosmological Scales" at **Bilateral Indo-US Workshop on the Invisible Sector** at University of Hyderabad in November 2016.

- I have delivered an **Invited talk** on "Probing The Invisible Sector At Large Cosmological Scales" at **III Saha Theory Workshop: Aspects of early universe cosmology, held at SINP, Kolkata**, India during 16-20 January 2017.

- I have delivered an **Invited talk** on "Dark Energy beyond Λ" at the workshop **Candles of Darkness at ICTS-TIFR, Bangalore, India** during 5-9th June 2017.

- I have delivered an **Invited talk** on "Imprint of thawing scalar fields on large scale galaxy over density" at the **Conference "Shedding Light on the Dark Universe with Extremely Large Telescopes" held at IMP, Lanzhou, China** during 30 August2 September 2017.

- I have delivered an **Invited talk** on "Imprint of scalar fields on large scale galaxy overdensity" at **"3rd International Winter School-Seminar on gravity, cosmology and astrophysics" held at Kazan University, Kazan, Russia** during Nov 27- Dec 2, 2017.

- I have delivered an **Invited talk** on "The price of shifting the Hubble constant and evidence for dark energy evolution" at **Instituut Lorentz, Leiden University, Netherland**, in June 2018.

- I have delivered an **Invited talk** on "The price of shifting the Hubble constant and evidence for dark energy evolution" at **Instituto de astrofisica e ciencias do espao, Universidade de Lisboa**, in July 2018.

- I have delivered an **talk** on "The price of shifting the Hubble constant and evidence for dark energy evolution" at Abdus Salam International Center For Theoretical Physics, Trieste, Italy, in July 2018.

- I have delivered an **Invited Plenary talk** on "The Low Redshifts-High Redshifts Tensions in Cosmological Observations and Its Possible Implications" at **XXIII DAE-BRNS HEP Symposium at IIT-Madras** in December 2018.

Workshop, Schools Organized at CTP, JMI

- **Director, XXVI SERC Main School On Theoretical High Energy Physics** held in Center For Theoretical Physics, Jamia Millia Islamia, New Delhi, India from 31st January to 20th February 2011.
- **Convenor, International Workshop on Dark Energy**, held at Center For Theoretical Physics, J.M.I, New Delhi, India during 21st-23rd December 2011.
- **Member, Organising Committee, Symposium on Astro-Particle and Nuclear Physics**, held at Center For Theoretical Physics, Jamia Millia Islamia, New Delhi, India during January 2014.
- **Member Organizing Committee, International Conference on Matterr of Gravity and the Universe**, held at CTP, JMI, New Delhi, India during October 2014.
- **Coordinator, Workshop on Cosmology with Large Scale Structures**, held at CTP, JMI, New Delhi, India during 5th-9th January 2015.
- **Coordinator, GIAN Workshop on Probing Large Scale Structure Of The Universe With Weak Lensing**, held at CTP, JMI, New Delhi, India during March 2016. The International Faculty was **Alexander Refregier, from ETH, Zurich, Switzerland**.
- **Coordinator, GIAN Workshop on Cosmological Structure Formation**, held at CTP, JMI, New Delhi, India during April 2018. The International Faculty was **Prof. Ravi Sheth from University of Pennsylvania, United States of America**.

ACTIVITIES

- **Council Member** for **Indian Associate for General Relativity and Gravitation (IAGRG)** during 2014-2018.
- **Life Member** of the **Indian Association for General Relativity and Gravitation**.
- Refereeing: JCAP, Physics Letters B, Modern Physics Letters A, Astrophysics and Space Sciences, Europhysics Letters, General Relativity and Gravitation, Pramana, Europian Physical Journal C.
- **Convenor, VIII meeting on Field Theoretic Aspects of Gravity** held at H.N.B. Garhwal University, Srinagar, Uttarkhand, India from 19th-23rd April 2010.
- **Coordinator, Cosmology and Astroparticle Physics Working Group, at WHEPP-12** held at Mahabaleswar, India during 2nd-8th January 2012.

- **Member, Syllabus Committee for the M.SC/M.Phil Physics Program**, at Central University of Rajasthan, India.
- **Convenor, S.O.C. for 27th IAGRG Meeting** held at Garhwal University, Srinagar, India during March 7-9, 2013.
- **Member, Organising Committee, IUCAA Sponsored Workshop on Cosmology, entitled "Present Observational Constraints on Cosmological Parameters"** held at University of Delhi, India during 28th January - 1st February 2013.
- **Member, Organising Committee, AAPCOS-2013**, held at Institute for Advanced Studies, Shimla, India during 14-17 June 2013.
- **Member, National Organising Committee (NOC), WHEPP-XIV** held at Indian Institute of Technology, Kanpur, India in 4-13 December 2015.
- **Member, Organising Committee, XXVII IUPAP Conference on Computational Physics** held at Indian Institute of Technology, Guwahati, India in 2-5 December 2015.
- **Co-Chair, Cosmology Session at International Conference on Gravitation and Cosmology (ICGC 2015)** held at Indian Institute of Science Education and Research, Mohali, India during December 2015.
- **Member, National Organising Committee (NOC), SUSY-2017** held at TIFR, India in December 2017.
- **Member, Series Scientific Organising Committee (SSOC), Conference on Shedding Light on the Dark Universe With Extremely Large telescope** to be held in Asia/Australia, Europe/Africa and USA.
- **Member, Local Scientific Organising Committee (LSOC), Conference on Shedding Light on the Dark Universe With Extremely Large telescope held in Lanzhou, China** during Aug 30-Sept 2, 2017.
- **Member, Organising Committee, Conference on Shedding Light on the Dark Universe with Extremely Large Telescopes, to be held at Abdus Salam International Center For Theoretical Physics, Trieste, Italy** during 2 Jul - 6 Jul 2018.

PUBLICATION LIST OF ANJAN ANANDA SEN

1. **Fate of Strong Cosmic Censorship Conjecture in Presence of Higher Spacetime Dimensions**
   Mostafizur Rahman, Sumanta Charkraborty, Soumitra Sengupta, Anjan A Sen
   JHEP, **1903**, 178 (2019).

2. **Astrophysical Signatures of Black holes in Generalized Proca Theories**
   Mostafizur Rahman, Anjan A Sen
   Physical Review D, **99**, 024052 (2019).

3. **Negative Cosmological Constant is Consistent with Cosmological Data**
   Koushik Dutta, Ruchika, Anirban Roy, Anjan A Sen, M.M. Sheikh-Jabbari
   arXiv:1808.06623 [astro-ph.CO], Communicated.

4. **Model independent constraints on dark energy evolution from low-redshift observations**
   Salvatore Capozzielllo, Ruchika, Anjan A Sen
   Monthly Notices of Royal Astronomical Society, **484**, 4484, (2019).

5. **Dark enegy constraints from the 21 cm intensity mapping surveys with SKA1**
   Bikash R. Dinda, Anjan A Sen, Tirthankar Roy Choudhury
   arXiv:1804.11137 [astro-ph.CO], Communicated.

6. **The Price of Shifting the Hubble Constant**
   Jarah Evslin, Anjan A Sen and Ruchika
   Phys. Rev. D, **97**, 103511 (2018).

7. **Bayesian Evidence for Dark Energy Models in light of current observational data**
   Anto I. Lonappan, Sumit Kumar, Ruchika, Bikash R. Dinda and Anjan A Sen
   Phys. Rev. D, **97**, 043524, 2018.

8. **Observed galaxy power spectrum in cubic galileon model**
   Bikash R. Dinda, Md. Wali Hossain and Anjan A Sen
   JCAP **01**, 045 (2018).

9. **Imprint of thawing scalar fields on large scale galaxy overdensity**
   Bikash R. Dinda and Anjan A Sen
   Phys.Rev.D, **97**, 083506 (2018)

10. **Prospects of probing quintessence with HI 21-cm intensity mapping survey**
Azam Hossain, Shruti Thakur, Tapomoy Guha Sarkar, Anjan A Sen
arXiv:1603.02087 [astro-ph.CO]
Monthly Notices of Royal Astronomical Society, **463**, 3492, (2016).

11. **A new recipe for ΛCDM**
Varun Sahni and Anjan A Sen
The European Physical Journal C **77**, 225 (2017).

12. **Thirty Meter Telescope Detailed Science Case: 2015**
W. Skidmore *et al.*
Res.Astron.Astrophys. **15**, 1945 (2015). arXiv:1505.01195 [astro-ph.IM].

13. **ScalPy: A Python Package for late time scalar field cosmology**
Sumit Kumar, Abhishek Jana and Anjan A Sen
arXiv:1502.02407[astro-ph.CO].

14. **Thawing quintessence from the inflationary epoch to today**
Gaveshna Gupta, Raghavan Rangarajan and Anjan A Sen
Phys.Rev.D **92**, 123003 (2015).

15. **A Geometric Approach to Modulus Stabilization**
Sampurn Ananda, Debajyoti Choudhury, Anjan A Sen and Soumitra Sengupta
Physical Review D, **92**, 026008 (2015).

16. **Cosmological evolution in a two-brane warped geometry model**
Sumit Kumar, Anjan A Sen and Soumitra Sengupta
Physics Letters B, **747**, 351, (2015).

17. **Post-Planck Dark Energy Constraints**
Dhiraj Kumar Hazra, Subhabrata Majumdar, Supratik Pal, Sudhakar Panda and Anjan A Sen
Physical Review D, **91**, 0835005 (2015).

18. **Clustering GCG: a viable option for unified dark matter-dark enegy**
Sumit kumar and Anjan A Sen
JCAP, **10** 036 (2014).

19. **Inflationary generalized Chaplygin gas and dark energy in the light Plank and BICEP2 experiment**
Bikas R DInda, Sumit Kumar and Anjan A Sen
Physical Review D, **90**, 083515 (2014).

20. **Can structure formation distinguish ΛCDM from non-minimal f(R) gravity?**
Shruti Thakur and Anjan A Sen
Physical Review D **88**, 044043 (2013).

21. **Cosmology with Axion-quintessence coupled with Dark Matter**
Sumit Kumar, Sudhakar Panda and Anjan A Sen
Classical and Quantum Gravity, **30**, 155011 (2013).

22. **Constraining Thawing Dark Energy Using Galaxy Number Counts**
N. Chandrachani Devi, T. Roy Choudhury and Anjan A Sen
Monthly Notices of Royal Astronomical Society, **432**, 1513, (2013).

23. **DBI Galileon and Late time acceleration of the universe**
Sampurnanand and Anjan A Sen
JCAP, **1212**, 019, (2012)

24. **Deviation From Λ CDM With Cosmic Strings Networks**
Sumit Kumar, Akhilesh Nautiyal and Anjan A Sen
The European Physical Journal C **73**, 2562 (2013).

25. **Thawing Versus. Tracker Behaviour: Observational Evidence**
Shruti Thakur, Akhilesh Nautiyal, Anjan A Sen and T.R. Seshadri
Monthly Notices of Royal Astronomical Society, **427**, 988 (2012).

26. **Do Observations Favour Galileon Over Quintessence?**
Md. Wali Hossain and Anjan A Sen
Physics Letters B, **713**, 140, (2012).

27. **GCG Parametrization for Growth Function and Current Constraints**
Gaveshna Gupta, Somasri Sen and Anjan A Sen
JCAP **1204**, 028, (2012).

28. **Constraining Thawing Quintessence**
Gaveshna Gupta, Subhabrata Majumdar and Anjan A Sen
Monthly Notices of Royal Astronomical Society, **420**, 1309, (2012).

29. **Cosmology of Horava-Lifshitz f(R) Gravity**
Sayan K. Chakrabarti, Koushik Dutta and Anjan A Sen
Physics Letters B, **711**, 147 (2012).

30. **Observational Constraints on Axions as Quintessence in String Theory**
Gaveshna Gupta, Sudhakar Panda and Anjan A Sen
Physical Review D, **85**, 023501 (2012).

31. **Standard Cosmology Delayed**
Debajyoti Choudhury, Debashis Ghoshal and Anjan A Sen
JCAP, **1202**, 046 (2012).

32. **Horava-Lifshitz cosmology with generalized Chaplygin gas**
Amna Ali, Sourish Dutta, Emmanuel N. Saridakis, Anjan A. Sen
General Relativity and Gravitation, **44**, 657, (2012).
Cited 24 times.

33. **WMAP Constraints On K-Inflation**
N. Chandrachani Devi, Akhilesh Nautiyal and Anjan A Sen
Physical Review D, **84**, 103504 (2011).

34. **Solar Syestem Constraints on Scalar Tensor Theories with Non-Standard Action**
N. Chandrachani Devi, Sudhakar Panda and Anjan A Sen
Physical Review D, **84**, 063521 (2011).

35. **Non-minimally coupled f(R) Cosmology**
Shruti Thakur, Anjan A Sen, T.R. Seshadri
Physical Letters B, **696**, 309 (2011).

36. **Evolution of Spherical Overdensity in Thawing Dark energy Models**
N.Chandrachani Devi, Anjan A Sen
Monthly Notices of Royal Astronomical Society, **413**, 2371 (2011).

37. **A new approach to modified-gravity models**
Sayan K. Chakrabarti, Emmanuel N. Saridakis, Anjan A. Sen
General Relativity and Gravitation, **43**, 3065 (2011).

38. **Background cosmological dynamics in $f(R)$ gravity and observational constraints**
Amna Ali, Radouane Gannouji, M. Sami, Anjan A. Sen
Physical Review D, **81**, 104029 (2010).
Cited 19 times.

39. **The thawing dark energy dynamics: Can we detect it?**
S. Sen, A.A. Sen and M. Sami
Physics Letters B,**686**,1 (2010).

40. **Cosmology with non-minimally coupled K-Field**
A.A. Sen and N. Chandrachani Devi
General Relativity and Gravitation, **42**, 821 (2010).

41. **Non-minimal quintessence and phantom with nearly flat potentials**
Gaveshna Gupta, Emmanuel N. Saridakis, Anjan A. Sen
Physical Review D, **79**, 123013 (2009). **Cited 50 times.**

42. **The transient and the late time attractor tachyon dark energy: Can we distinguish it from quintessence ?**
Amna Ali, M. Sami, A.A. Sen
Physical Review D, **79**, 123501 (2009).
Cited 24 times.

43. **Non-Minimal Quintessence with nearly flat potential**
Anjan A Sen, Gaveshna Gupta and Sudipta Das
JCAP **0909**, 027 (2009).

44. **Phantom Dark Energy Models with a Nearly Flat Potential**
Robert J. Scherrer, A.A. Sen
Physical Review D, **78**, 067303 (2008)
Cited 61 times.

45. **Cosmological Scaling Solutions with Tachyon:Modified Gravity Model**
A.A. Sen and N.Chandrachani Devi
Physics Letters B **668**, 182 (2008).

46. **Reconstructing the interaction rate in holographic models of dark energy**
Anjan A Sen and Diego Pavon
Physics letters **B 664**, 7 (2008).

47. **Thawing quintessence with a nearly flat potential**
Robert J. Scherrer, A.A. Sen
Physical Review D, **77**, 083515 (2008)
Cited 136 Times.

48. **Deviation for ΛCDM: Pressure Parametrization**
A.A. Sen
Physical Review D **77**, 043508 (2008).

49. **The Weak Energy Condition and the Expansion of the History of the Universe**
A.A. Sen and R.J. Scherrer
Physics Letters B, **659**, 457 (2008)
Cited 36 Times.

50. **Phantom Dark Energy Models with Negative Kinetic Term**
J. Kujat, R.Scherrer and A.A. Sen
Physical Review D **74**, 083501, (2006)
Cited 53 times.

51. **Tachyon Matter in Loop-Inspired Cosmology**
A.A. Sen
Physical Review D **74**, 045301 (2006).

52. **Reconstructing K-essence**
A.A. Sen
Journal of Cosmology and Astroparticle Physics **03**, 010 (2006)
Cited 38 times.

53. **Structure Formation and CMBR Anisotropy Spectrum in the Inflessence Model**
A.A. Sen, Vincenzo F. Cardone, S. Capozziello and A. Troisi
Astronomy and Astrophysics **460**, 29 (2006).

54. **Generalizing the Generalized Chaplygin Gas**
A.A.Sen and Robert Scherrer
Physical Review D **72**, 063511 (2005)
Cites 85 times.

55. **Supernovae Constraints on Models of Dark Energy Revisited**
M.C.Bento, O. Bertolami, N.M.C. Santos and A.A. Sen
Physical Review D 71, 063501, (2005).
Top Cite, cited 80 times

56. **Generalized Chaplygin gas in a modified gravity approach**
T. Barreiro and A. A. Sen
Physical Review D, **70**, 124013 (2004)
Cited 51 times.

57. **The Revival of the Unified Dark Energy-Dark Matter Model?**
M.C. Bento, O. Bertolami and A.A.Sen
Physical Review D, 70, 083519, (2004).
Top Cite, Cited 203 times

58. **Latest Supernova data in the framework of Generalised Chaplygin Gas model**
O.Bertolami, A.A.Sen, S.Sen, P.T.Silva
Monthly Notices Of Royal Astronomical Society, 353, 329 (2004).
Top Cite, Cited 168 Times.

59. **WMAP bounds on braneworld tachyonic inflation**
M.C. Bento, N.M.C. Santos, A.A. Sen
International Journal for Modern Physics D, **13**, 1927 (2004).

60. **WMAP and supergravity inflationary models**
M.C. Bento, N.M.C. Santos, A.A. Sen
Physical Review D, **69**, 023508 (2004).

61. **Generalized Chaplygin Gas Model: Dark Energy - Dark Matter Unification and CMBR Constraints**
M.C. Bento, O. Bertolami and A.A.Sen
Essay Selected for an Honorable Mention by the Gravity Research Foundation Essay Competition, 2003.
General Relativity and Gravitation, **35**, 2063 (2003)
Cited 81 times .

62. **WMAP Constraints on the Generalized Chaplygin Gas Model**
M.C. Bento, O. Bertolami and A.A. Sen
Physics Letters, B575, 172 (2003).
Top Cite, Cited 211 Times.

63. **WMAP constraints on Cardassian model**
A.A. Sen and S. Sen
Physical Review D, **68**, 023513, (2003)
Cited 25 times.

64. **WMAP Constraints on Quintessence**
T. Barreiro, M.C. Bento, N.M.C. Santos and A.A. Sen
Physical Review D, **68**, 043515 (2003).

65. **Observational Constraints on Cardassian Expansion**
S. Sen and A.A. Sen,
Astrophysical Journal, **588**, 1 (2003)
Cited 58 times.

66. **Generalized Chaplygin gas and CMBR constraints**
M.C. Bento, O. Bertolami and A.A. Sen,
Physical Review D, 67, 063003 (2003).
Top Cite, Cited 236 times

67. **Tachyonic Inflation in Braneworld Scenario**
M.C. Bento, O. Bertolami and A.A. Sen,
Physical Review D, 67, 063511 (2003).
Top Cite, Cited 125 Times.

68. **Supergravity Inflation on the Brane**
M.C. Bento, O. Bertolami and A.A. Sen,
Physical Review D, **67**, 023504 (2003)
Cited 25 times.

69. **Generalized Chaplygin Gas, Accelerated Expansion and Dark Energy-Matter Unification**
M. C. Bento, O. Bertolami, and A. A. Sen,
Physical Review D, 66, 043507 (2002).
Top Cite, Renowned Paper: Cited 1326 Times.

70. **Quintessence Model with Double Exponential Potential**
A.A. Sen and S. Sethi,
Physics Letters , **B 532**, 159 (2002)
Cited 62 times.

71. **Brane Dynamics in the Randall-Sundrum model, Inflation and Graceful Exit**
Somdatta Bhattacharya, Debajyoti Choudhury, Dileep Jatkar and Anjan Ananda Sen,
Classical and Qunatum Gravity, **19**, 5025 (2002).

72. **Quintessential Inflation with Dissipative fluid**
A.A. Sen, Indrajit Chakrabarty and T.R. Sheshadri,
General Relativity and Gravitation, **34**, 477 (2002).

73. **Late time acceleration in Brans-Dicke cosmology**
S. Sen and A.A. Sen
Physical Review D, **63**, 124006 (2001)
Cited 103 times.

74. **Dissipative fluid in Brans-Dicke theory and late time acceleration**
A.A. Sen, S. Sen and S. Sethi,
Physical Review D, **63**, 107501 (2001)
Cited 66 times.

75. **Cosmology in scalar tensor theory and asymptotically de-Sitter universe**
A.A. Sen and S. Sen,
Modern Physics Letters A, 16, 1303 (2001)
Top Cite, Cited 66 Times

76. **Circular Cosmic String Loop in Brans-Dicke Theory**
A. Barros, A.A. Sen and C. Romero,
Brazilian Journal of Physics. **31**, 507 (2001).

77. **Vacuumless cosmic strings in Brans-Dicke theory**
A.A. Sen,
Internation Journal of Modern Physics D **10** 515 (2001).

78. **Nonstatic global string in Brans-Dicke theory**
A.A. Sen and N. Banerjee,
Modern Physics Letters A, **15**, 1409 (2000).

79. **Nonsingular static global string**
A.A. Sen and N. Banerjee,
Physical Review D, **62**, 047302 (2000).

80. **Nonstatic local cosmic string in Brans-Dicke theory**
A.A. Sen,
Pramana-Journal of physics, **55**, 369 (2000).

81. **Superconducting cosmic string in Brans-Dicke theory**
A.A. Sen,
Physical Review D, **60**, 067501 (1999).

82. **Gravitational field of a stationary circular cosmic string loop**
A.A. Sen and N. Banerjee,
Astrophysics and Space Sciences **251**, 301, (1998).

83. **Local cosmic string in generalised scalar tensor theory**
A.A. Sen and N. Banerjee,
Physical Review D **57**, 6558 (1998).

84. **Global monopole in scalar tensor theory**
A. Banerjee, A. Beesham, S. Chatterjee and A.A. Sen,
Classical and Quantum Gravity **15**, 645 (1998).

85. **Static cosmic strings in Brans-Dicke theory**
A.A. Sen, N. Banerjee and A. Banerjee,
Physical Review D **56**, 3706 (1997).
Cited 21 times

86. **Global monopole in Kaluza-Klein spacetime**
A. Banerjee, S. Chatterjee and A.A. Sen,
Classical and Quantum Gravity, **13**,3141 (1996).

87. **Static and nonstatic global string**
A. Banerjee, N. Banerjee, and A.A. Sen,
Physical Review D **53**, 5508 (1996)
Cited 40 times.