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List of Publications

Journals

2025

142. Photoionisation study of simple organic compounds using the R-matrix method. Sapna Mahla and Bobby Antony. *MNRAS* **542** (2025) 2377-2388.
141. Investigation of Electron Collisions with Organic Phosphates. Ashutosh Yadav and Bobby Antony. *J. Phys. Chem. A* **129** (2025) 8013-8023.
140. Theoretical Study of Electron Interaction from Glucose Molecule in Aqueous Phase. Meenu Pandey and Bobby Antony. *J. Phys. Chem. B* **129** (2025) 8494-8500.
139. Electron scattering from oxetane and thietane and their isomers. Sudhanshu Arya and Bobby Antony. *J. Appl. Phys.* **137** (2025) 224903.
138. R-matrix calculations of photoionization cross sections of sulfur-containing compounds. Sapna Mahla and Bobby Antony. *MNRAS in press* (2025).
137. Computation of electron interaction with halide precursors. Meenu Pandey and Bobby Antony. *Rad. Phys. Chem.* **229** (2025) 112502.

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136. Positron scattering from interstellar phosphorus-bearing compounds. Irabati Chakraborty, Nafees Uddin, Bobby Antony. *RSC Advances* **14** (2024) 38855.
135. Photoionization of hydrogen halides using the R-matrix method. Sapna Mahla and Bobby Antony. *MNRAS* **533** (2024) 2048.
134. Calculation of electron-impact ionization of various benzene derivatives. Anirudh Krishnadas, Nidhi Sinha, Tom Kirchner and Bobby Antony. *Phys. Scr.* **99** (2024) 95403.
133. Electron scattering cross sectional data for precursors used in plasma-assisted deposition. Meenu Pandey and Bobby Antony. *J. Appl. Phys.* **136** (2024) 044901.
132. Ionization of sulfur clusters, Sn ($n = 2-8$) by electron collisions. Himani Tomer, Nafees Uddin and Bobby Antony. *Rad. Phys. Chem.* **222** (2024) 111827.
131. Calculations of electron scattering cross sections from tungsten precursors used in FEBID. Meenu Pandey and Bobby Antony. *J. Electron Spec. Rel. Phenom.* **271** (2024) 147430.
130. Positron scattering from structurally related biomolecules. Sapna Mahla and Bobby Antony. *RSC Advances* **14** (2024) 1397.
129. Electron impact ionization of prebiotic interstellar molecules. Irabati Chakraborty, Nidhi Sinha and Bobby Antony. *Rad. Phys. Chem.* **216** (2024) 111421.

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128. Low energy electron scattering from pyrrole and its isomers. Himani Tomer, Biplab Goswami, Paresh Modak, Mohammad Jane Alam, Shabbir Ahmad and Bobby Antony. *J. Phys. Chem. A* **127** (2023) 10464.
127. Theoretical Investigations of Positron Collisions with Phosphorus-containing Compounds. Sapna Mahla, and Bobby Antony. *J. Appl. Phys.* **134** (2023) 124901.
126. Study of Electron Collisions with Isoprene, 1,2-Butadiene, and Their Isomers. Sapna Mahla, Paresh Modak and Bobby Antony. *J. Phys. Chem. A* **127** (2023) 5414.
125. Electron impact cross section of C₅H₁₀ isomers. Irabati Chakraborty, Nidhi Sinha and Bobby Antony. *Chem. Phys.* **573** (2023) 111974.
124. Determination and assessment of a complete and self-consistent electron-neutral collision cross-section set for the C₄F₇N molecule. Boya Zhang, Mai Hao, Yuyang Yao, Jiayu Xiong, Xingwen Li, Anthony B Murphy, Nidhi Sinha, Bobby Antony and H B Ambalampitiya. *J. Phys. D: Appl. Phys.* **56** (2023) 134001.
123. Electron scattering and ionization of astrophysical molecules. Nafees Uddin, Himani Tomer, Bobby Antony. *Rad. Phys. Chem.* **204** (2023) 110686.

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122. DC Breakdown Characteristics of C₄F₇N/CO₂ Mixtures with Particle-in-cell Simulation. Jianwei Zhang, Nidhi Sinha, Ming Jiang, Hongguang Wang, Yongdong Li, Bobby Antony, Chunliang Liu. *IEEE Trans. Dielectr. Electr. Insul.* **29** (2022) 1005.
121. Investigation of Electron Scattering from Vinyl Ether and Its Isomers. Himani Tomer, Biplab Goswami, Bobby Antony. *Int. J. Mass Spectrom.* **10** (2022) 43.

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120. *Electron and positron backscattering from condensed targets*. Nidhi Sinha, Priyanka Subraveti and Bobby Antony. *J. Phys. B: At. Mol. Opt. Phys.* **54** (2021) 205001.
119. *Electron scattering from molecules relevant to Titan's atmosphere*. Himani Tomer, Paresh Modak, Mohammad Jane Alam, Shabbir Ahmad, Bobby Antony. *Int. J. Mass Spectrom.* **470** (2021) 116708.
118. *Electron collision with N₂H and HCO*. Paresh Modak, Abhisek Singh, Biplab Goswami, Bobby Antony. *Euro. Phys. J. D* **75** (2021) 264.
117. *On the Electron Impact Integral Cross-Sections for Butanol and Pentanol Isomers*. Nafees Uddin, Paresh Modak, Bobby Antony. *Atoms* **9** (2021) 43.
116. *Electron impact scattering from pentane molecules and effect of isomerism on cross section*. Himani Tomer, Paresh Modak, Nidhi Sinha, Bobby Antony. *Chem. Phys. Impact* **3** (2021) 100032.
115. *Mean Free Paths and Cross Sections for Electron Scattering from Liquid Water*. Nidhi Sinha and Bobby Antony. *J. Phys. Chem. B* **125** (2021) 5479-5488.
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113. *Rydberg transitions and photoionisation cross section of NH₃*. Paresh Modak and Bobby Antony. *J. Phys. B: At. Mol. Opt. Phys.* **54** (2020) 15204.
112. *A decade with VAMDC: results and ambitions*. Damien Albert, Bobby Antony, et. al.. *Atoms* **8** (2020) 76.
111. *Electron scattering studies of BF and BF₂*. Dhanoj Gupta, Heechol Choi, Mi-Young Song, Suvam Singh, Bobby Antony, Kalyan Chakrabarti, Jung-Sik Yoon and Jonathan Tennyson. *J. Phys. B: At. Mol. Opt. Phys.* **53** (2020) 225203.
110. *Electron induced scattering cross section for pyrrole and its isomers*. Himani Tomer, Paresh Modak, Sridhar Sahu and Bobby Antony. *Euro. Phys. J. D* **78** (2020) 198.
109. *Electron Scattering Cross Sections for Anthracene and Pyrene*. Suvam Singh, Dhanoj Gupta, Bobby Antony, Maria Tudorovskaya and Jonathan Tennyson. *J. Phys. Chem. A* **124** (2020) 7088-7100.
108. *Positron scattering from atoms and molecules*. Sultana Nahar and Bobby Antony. *Atoms* **8** (2020) 29.
107. *Positron scattering from pyridine and pyrimidine*. Nidhi Sinha, Aloka Kumar Sahoo and Bobby Antony. *J. Phys. Chem. A* **124** (2020) 5147-5156.
106. *Low energy electron scattering from dimethyl ether*. Nidhi Sinha and Bobby Antony. *J. Phys. Chem. A* **124** (2020) 3581-3589.
105. *Ionisation cross sections for plasma relevant molecules*. Nidhi Sinha, Vraj Patel and Bobby Antony. *J. Phys. B: At. Mol. Opt. Phys.* **53** (2020) 145101.
104. *Probing photon interaction with H₂O and D₂O*. Paresh Modak and Bobby Antony. *J. Phys. B: At. Mol. Opt. Phys.* **53** (2020) 45202.

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103. *Photoionization of CO using R-matrix theory*. Paresh Modak and Bobby Antony. *Astrophys. J.* **887** (2019) 262.
102. *Inelastic cross sections for pentane isomers by positron impact*. Nidhi Sinha and Bobby Antony. *Mol. Phys.* **117** (2019) 2527-2534.
101. *Electron impact ionisation cross sections for complex molecules*. Nidhi Sinha, Dhanoj Gupta and Bobby Antony. *J. Phys. B: At. Mol. Opt. Phys.* **52** (2019) 145202.
100. *Positron scattering: total elastic and grand total cross sections for molecules of astrophysical importance*. Nidhi Sinha, Durgesini Patel and Bobby Antony. *Chemistry Select* **4** (2019) 4575-4581.
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95. *Plasma relevant electron scattering cross sections of propene*. Suvam Singh, Dhanoj Gupta and Bobby Antony. *Plasma Sources Sci. Technol.* **27** (2018) 105014.
94. *Theoretical study of positron scattering by group 14 tetra hydrides: A quantum mechanical approach*. Nidhi Sinha, Suvam Singh and Bobby Antony. *Int. J. Quantum Chem.* **118** (2018) e25679.
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86. *Positron scattering from methyl halides*. Nidhi Sinha, Paresh Modak, Suvam Singh and Bobby Antony. *J. Phys. Chem. A* **122** (2018) 2513-2522.
85. *Effect of ^{60}Co γ -ray on the interface and transport properties of Gallium Phosphide based Schottky diode*. N Shiwakoti, A Bobby, K Asokan and Bobby Antony. *Mater. Sci. Semicond. Process.* **74** (2018) 1-6.
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83. *Positron Impact Total Cross Sections of Alkali atoms*. Nidhi Sinha, Suvam Singh and Bobby Antony. *J. Phys. B: At. Mol. Opt. Phys.* **51** (2018) 15204.
82. *Elastic scattering of electrons by silicon, germanium and tin tetrahalides*. Pankaj Verma and Bobby Antony. *J. Electron Spec. Rel. Phenom.* **222** (2018) 51-56.

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4. Theoretical total ionization cross sections of CH_x, CF_x, SiH_x, SiF_x (x=1-4) and CCl₄ targets by electron impact. K N Joshipura, Minaxi Vinodkumar, B K Antony and N J Mason. *Euro. Phys. J. D* **23** (2003) 81-90.
3. Electron Scattering and Ionization of Ozone, O₂, O₄ Molecules. K N Joshipura, B K Antony and V Minaxi. *J. Phys. B: At. Mol. Opt. Phys.* **35** (2002) 4211-4221.
2. Theoretical total cross sections of e⁻ - H₂O collisions in water, ice and forms. K N Joshipura, Minaxi Vinodkumar, C G Limbachiya and B K Antony. *Indian J. Phys.* **76B** (2002) 569.
1. Total including ionization cross sections of electron impact on ground state and metastable Ne atoms. K N Joshipura and B K Antony. *Phys. Letts. A* **289** (2001) 323-328.

11. *Electron and positron scattering from pyridine*. Nidhi Sinha, A.K. Sahoo and Bobby Antony. *J. Phys.: Conf. Ser.* 1412 (2020) 222009.
10. *Electron induced excitation of Furfural (C₅H₄O₂)*. Paresh Modak, A Singh and Bobby Antony. *J. Phys.: Conf. Ser.* 1412 (2020) 142024.
9. *Positron collision dynamics for C₂-C₃ hydrocarbons*, in Quantum Collisions and Confinement of Atomic and Molecular Species, and Photons, Eds. P. C. Deshmukh et al. Nidhi Sinha and Bobby Antony. *Springer Proceedings in Physics* (2020) 230.
8. *Theoretical and experimental analysis of barrier distribution in nearly ideal Schottky diodes*. A. Bobby, N. Shiwakoti and B. K. Antony. *AIP Conf. Proc.* **1665** (2015) 110001.
7. *Calculation of electron impact total ionization cross sections for the atoms Ga, Ge, As, Se, Br and Kr*. Rahla Naghma, Minaxi Vinodkumar and Bobby Antony. *J. Phys.: Conf. Ser.* **388** (2012) 042041.
6. *Electron impact total ionization cross sections for simple bio-molecules (H₂CO, HCOOH and CH₃COOH) using ICSP-ic method*. Harshad Bhutadia, Minaxi Vinodkumar and Bobby Antony. *J. Phys.: Conf. Ser.* **388** (2012) 052071.
5. *Rotationally elastic total cross sections for NH₃ on electron impact over a wide energy range*, in 64th Annual Gaseous Electronics Conference. Minaxi Vinodkumar, Chetan Limbachiya, Bobby Antony. *Bulletin of the American Physical Society* **56** (2011) QRP1.00029.
4. *Half-widths and Line Shifts of Water Vapor for Atmospheric Applications: Measurement and Theory*, in Remote Sensing of the Atmosphere for Environmental Security. Eds. Perrin Agnès et al. Robert R. Gamache and Bobby K. Antony. *NATO Sciences Series, Springer* (2006) 203-220.
3. *The roles of the S₁ and S₂ scattering matrix terms on half-widths and their temperature dependence for the water vapor - nitrogen system*, in Spectral Line Shapes. Eds. E Oks and M Pindzola. Robert R. Gamache, Bobby K. Antony, Peter R. Gamache and Jean-Michel Hartmann. *AIP Conf. Proc.* **874** (2006) 351-353.
2. *Maximum ionization contribution to TCS of e-atom/molecule collisions: dependence on $[\alpha/l]^{1/2}$* . KN Joshipura, V Minaxi, CG Limbachiya, BK Antony. *Europhys. Conf. Abstracts* **26** (2012).
1. *Complex Scattering Potential approach to calculations of e-atom/molecule total ionization cross-sections*. KN Joshipura, NJ Mason, MV Kumar, BK Antony. *Europhys. Conf. Abstracts* **26** (2012).

Books and Monographs

Publications in books and monographs

6. *Total scattering cross section of S₂ by electron impact*, in Electron Collision Processes in Atomic and Molecular Physics, Eds. M. Vinodkumar. Rahla Naghma and Bobby Antony. *Narosa Publishing House, New Delhi, India; ISBN: 978-81-8487-343-6* (2013).
5. *Electron impact total cross section for F₂O over a wide range of impact energies (0.1-2000 eV)*, in Electron Collision Processes in Atomic and Molecular Physics, Eds. M. Vinodkumar. Dhanoj Gupta and Bobby Antony. *Narosa Publishing House, New Delhi, India; ISBN: 978-81-8487-343-6* (2013).
4. *Scattering studies of Cl₂O by electron impact*, in Electron Collision Processes in Atomic and Molecular Physics, Eds. M. Vinodkumar. Biplab Goswami and Bobby Antony. *Narosa Publishing House, New Delhi, India; ISBN: 978-81-8487-343-6* (2013).
3. *Electron collisions and ionization of atoms and molecules*. Bobby Antony. *LAMBERT Academic Publishing, Germany; ISBN: 978-81-8487-343-6* (2010).
2. *Total and ionization cross sections for well-known and exotic hydrocarbon molecules upon electron impact*, in Atomic structure and collision processes, Eds. Man Mohan. Minaxi Vinodkumar, K. N. Joshipura, C. G. Limbachiya and B. K. Antony. *Narosa Publishing House, New Delhi, India; ISBN: 978-81-7319-811-3* (2010).
1. *Electron impact cross sections with O atom, O₂ and O₂ molecules - a theoretical survey*, in Current Developments in Atomic, Molecular, and Chemical Physics with Applications, Eds. Man Mohan. K N Joshipura, B K Antony and V Minaxi. *Springer, Boston, MA; ISBN: 978-81-7319-811-3* (2002).

Other Journals

Publications in non-SCI Journals

6. *Low energy electron impact calculation for N₂O scattering*. Mayuri Y Barot, Minaxi Vinodkumar and Bobby Antony. *J. Pure and Appl. Sci. - Prajna* **20** (2012) 100-104.
5. *Computation of electron impact cross sections from molecules of astrophysical importance*. Bobby Antony. *J. Modern Phys.* **2** (2011) 1088-1092.
4. *Electron impact total cross sections for ethylene oxide*. Avani Y Barot, Minaxi Vinodkumar and Bobby Antony. *J. Pure and Appl. Sci. - Prajna* **19** (2011) 71-74.
3. *Screening-corrected electron impact total and ionization cross sections for N(CH₃)₃ and P(CH₃)₃*. Harshad Bhutadia, Kirti Korot, Bobby Antony and Minaxi Vinodkumar. *J. Pure and Appl. Sci. - Prajna* **18** (2010) 140-144.
2. *Electron impact total ionization cross sections for boron chlorides (BCl_x, x=1-3); threshold - 2keV*. Kirti M. Korot, Bobby K. Antony and Minaxi Vinodkumar. *J. Pure and Appl. Sci. - Prajna* **16** (2008) 110-120.
1. *Relative contributions of various electron collision processes on He and H₂ targets*. Minaxi Vinodkumar, B. K. Antony, C. G. Limbachiya and K. N. Joshipura. *J. Pure and Appl. Sci. - Prajna* **12** (2003) 89-98.

Reports

Publications in technical/scientific reports

3. Report on: *Total cross sections*, in Evaluation of data for collisions of electrons with nitrogen molecule and nitrogen molecular ion. IAEA Vienna, Austria. D. Field, G. Garcia and B. Antony. [Summary Report of an IAEA Consultants Meeting 45](#), 16 (2014) Ref. No. 45042239.
2. Report on: *Momentum transfer*, in Evaluation of data for collisions of electrons with nitrogen molecule and nitrogen molecular ion. IAEA Vienna, Austria. L. Alves, J. Tennyson and B. Antony. [Summary Report of an IAEA Consultants Meeting 45](#), 16 (2014) Ref. No. 45042241.
1. Report on: *Ionization*, in Evaluation of data for collisions of electrons with nitrogen molecule and nitrogen molecular ion. IAEA Vienna, Austria. B Antony, NJ Mason, L Alves. [Summary Report of an IAEA Consultants Meeting 45](#), 16 (2014) Ref. No. 45042243.

Invited Talks

Invited talks at conferences, symposia, seminars, workshops and schools

21. *Electron and positron scattering from biomolecules* [12th International Symposium "Atomic Cluster Collisions"](#), Heidelberg University, Heidelberg, Germany. (14-18, 2025).
20. *Progress, challenges, and prospects in lepton collisions and photoionization of molecules* [Weekly Seminar to the Schools of Physics and Chemistry](#), University of Kent, UK. (12 June, 2024).
19. *Electron and positron scattering from molecules* [23th National Conference on Atomic and Molecular Physics \(NCAMP-23\)](#), IIST, India. (20-23 Feb, 2023).
18. *Lecture series: Theory of Quantum Scattering* [Department Seminar](#), University of Kent, UK. (18-22 Jul, 2022).
17. *Electron impact scattering from beryllium and tungsten* [2nd meeting of the Global Network for the Atomic and Molecular Physics of Plasmas \(GNAMPP\)](#), IAEA, Vienna, Austria. (6-10 Dec, 2021).
16. *Electron and positron scattering from molecules - progress, problems, possibilities* [PRL Colloquium](#), Physical Research Laboratory (online). (28 Oct, 2020).
15. *Theory of Quantum Collision* [10th Vidyasagar Satyendra Nath Bose National Workshop on Expanding Horizon in Physics \(EHP- 2019\)](#), Vidyasagar University Campus, Midnapore. (16–22 Jan, 2019).
14. *Positron interactions with hydrocarbon molecules* [International Conference on Atomic, Molecular, Optical and Nano Physics with Applications \(CAMNP 2019\)](#), DTU Delhi. (18-20 Dec, 2019).
13. *Positron Interactions with Hydrocarbon Molecules* [XX International Workshop on Low-Energy Positron and Positronium Physics and XXI International Symposium on Electron-Molecule Collisions and Swarms](#), Belgrade, Serbia. (18 - 20 Jul 2019).
12. *Total ionization cross section data* [Technical meeting on uncertainty assessment and benchmark experiments for atomic and molecular data for fusion applications](#), IAEA, Vienna, Austria. (9-21 Dec, 2016).
11. *Cross section data for electron/positron scattering: a theoretical approach* [International Conference on Atomic and Molecular Data and Their Applications \(ICAMDATA 2016\)](#), NFRI, Gunas, Republic of Korea. (25-29 Sep, 2016).
10. *Electron scattering from cyanoacetylene* [International Workshop on Dissociative Electron Attachment, 2nd DEA Club meeting](#), TIFR, Mumbai, India. (18-20 Nov, 2015).
9. *Electron scattering by Carbonyl Fluoride* [4th International Conference on Current Developments in Atomic, Molecular, Optical and Nano Physics with Applications \(CDAMOP-2015\)](#), Delhi University, New Delhi, India. (11-14 Mar, 2015).
8. *Electron induced chemistry* [20th National Conference on Atomic and Molecular Physics \(NCAMP-XX\)](#), IIST TVM, India. (9-12 Dec, 2014).
7. *Electron impact scattering from molecules: A theoretical study* [3rd International conference on Current developments in Atomic, Molecular, Optical and Nano Physics](#), Delhi University, New Delhi, India. (14-16 Dec, 2011).
6. *Electron impact total ionization cross sections for atoms (Z=50-54)* [2nd DAE-BRNS Symposium on Atomic, Molecular and Optical Physics](#), Karnataka University, Dharwad, India. (22-25 Feb, 2011).
5. *Dissociative electron attachment: theoretical study* [Joint ICTP/IAEA Workshop on Atomic and Molecular Data for Fusion](#), ICTP, Trieste, Italy. (20-30 Apr, 2009).
4. *Collision broadened half-width and pressure induced line shifts for atmospheric applications* [Topical Conference on Atomic and Molecular Physics](#), Sardar Patel University, Gujarat, India. (3-5 Jan, 2008).
3. *Calculation of line shape parameters for self-broadening of water vapor transitions via complex Robert-Bonamy theory* [61st International Symposium on Molecular Spectroscopy](#), The Ohio State University, Ohio, USA. (19-23 Jun, 2006).
2. *Theoretical study of electron collisions and ionization of atoms, molecules and clusters* [XV National Conference on Atomic and Molecular Physics \(NCAMP\)](#), PRL, Ahmedabad, India. (20-24 Dec, 2004).
1. *Calculation of ionization cross-sections of free radicals* [2nd Electron Positron induced Chemistry](#), Prague, Czech Republic. (30 Jul-2 Aug, 2003).

2025

XXII International Workshop on Low-Energy Positron and Positronium Physics, Matsue, Japan

7 - 10 Aug, 2025

118. *Investigation of positron scattering for fluorocarbons in plasma applications.* Ashutosh Yadav and Bobby Antony.

XXXIV International Conference on Photonic, Electronic and Atomic Collisions, Sapporo, Japan

29 Jul - 5 Aug, 2025

117. *Leptonic collisions from astrophysical molecules.* Ashutosh Yadav and Bobby Antony.
116. *Photoionization of simple organic compounds using the R-matrix method.* Sapna Mahla and Bobby Antony.

24th National Conference on Atomic and Molecular Physics, IIT(ISM) Dhanbad

8-11 Jan, 2025

115. *Calculations of electron scattering cross sections from tungsten precursors used in FEBID.* Meenu Pandey and Bobby Antony.
114. *Electron Scattering from Oxygen- and Sulfur-Based Four-Atom Heterocycles and Isomers.* Sudhanshu Arya and Bobby Antony.

2023

23rd National Conference on Atomic and Molecular Physics, IIST Thiruvananthapuram

20-23 Feb, 2023

113. *Theoretical study of low-energy electron scattering from pyrrole and its isomers using R-matrix method.* Himani Tomer and Bobby Antony.
112. *Positron scattering from HCP and CCP.* I. Chakraborty, N. Uddin and B. Antony.
111. *Theoretical investigation of leptonic collisions with H₂PO₄ and H₂SO₄.* Sapna Mahla and Bobby Antony.

2022

International Conference on Atomic and Molecular Data and Their Applications (12th ICAMDATA),

25-29 Sep, 2022

Mola di Bari, Italy

110. *Electron Collision Study of Isoprene-C₅H₈ and its Isomers: Relevant to Aerosol formation.* Sapna Mahala and Bobby Antony.
109. *Electron impact ionization cross section of few prebiotic interstellar molecules.* I. Chakraborty, N. Sinha and B. K. Antony.
108. *Electron impact ionization of sulfur clusters, S_n (n= 2-8).* H. Tomer and B. K. Antony.

2019

The International Conference on Atomic, Molecular, Optical and Nano Physics with Applications

18-20 Dec, 2019

(CAMNP 2019), DTU Delhi

107. *Electron collision study from liquid water.* N. Sinha, I. Chakraborty and B. Antony.
106. *Electron scattering cross-sections for pentane and its isomers.* H. Tomer, N. Sinha and B. Antony.

31st International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC XXXI), Caen and

23-30 Jul 2019

Deauville, France

105. *Electron and positron scattering from pyridine.* Nidhi Sinha, Aloka Kumar Sahoo and Bobby Antony.
105. *Electron scattering cross sections for complex benzene derivatives.* S Singh, P Modak, D Gupta, N Uddin and B Antony.
104. *Electron induced excitation of Furfural (C₅H₄O₂).* P Modak, A Singh and B Antony.

XX International Workshop on Low-Energy Positron and Positronium Physics & XXI International

18-20 Jul 2019

Symposium on Electron-Molecule Collisions and Swarms, Belgrade, Serbia

103. *Excitation cross-section for e-N₂H scattering.* Paresh Modak, Abhisek Singh and Bobby Antony.

22nd National Conference on Atomic and Molecular Physics, IIT Kanpur

25-28 Mar, 2019

102. *Excitation of HO₂ by electron impact.* P. Modak, A. Singh, S. Singh, H. Tomer and B. Antony.
101. *Electron impact ionisation cross section for amino acids and benzene derivatives.* N. Sinha, D. Gupta, A. Sahoo and B. Antony.
100. *Electron scattering tcs of H₂CCCC: A cumulene carbene detected in interstellar medium.* N. Uddin, P. Verma and B. Antony.

2018

7th TC-ISAMP, Quantum Collisions and Confinement of Atomic and Molecular Species and Photons,

6-8 Jan, 2018

IISER Tirupati

99. *Positron collision dynamics for C₂-C₃ hydrocarbons.* Suvam Singh, Pankaj Verma, Vishwanath Singh and Bobby Antony.
98. *Positron Scattering Cross Sections for Methyl Halides.* Nidhi Sinha, Durgesini Patel and Bobby Antony.
97. *Ionization Cross Section of Small Water Clusters ((H₂O)_n, n=1-4).* Paresh Modak, Vraj Patel and Bobby Antony.

2017

30th International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC XXX) Cairns,

26 Jul-1 Aug, 2017

Tropical Queensland, Australia

96. *Quantum-Mechanical Calculations of Cross Sections for Positron Scattering with Inert Gases.* Suvam Singh, Jaspreet Kaur, Nidhi Sinha and Bobby Antony.
95. *Absolute cross sections for silver clusters (Ag_n, n=1-4) by electron impact.* Paresh Modak and Bobby Antony.

2017 Joint ICTP-IAEA School on Atomic Processes in Plasmas, ICTP Miramare, Trieste, Italy.**27 Feb-3 Mar 2017**

94. *Quantum-mechanical calculations of cross sections for positron scattering with noble gases.* Suvam Singh, Jaspreet Kaur and Bobby Antony.
93. *Isotopic effect in electron-methane interaction.* Paresh Modak and Bobby Antony.
92. *Electron-Germane scattering cross section for plasma assisted processes.* Pankaj Verma and Bobby Antony.
91. *Electron Impact Inelastic Ionization of Edge Plasma molecule Propane.* Jaspreet Kaur and Bobby Antony.

21st National Conference on Atomic and Molecular Physics (NCAMP-XXI), PRL, Ahmedabad, India.**3-6 Jan, 2017**

90. *A novel approach to study positron scattering from simple molecules.* Suvam Singh, Nidhi Sinha, Anamika Sen, Jaspreet Kaur and Bobby Antony.
89. *Cross section for Beryllium Tungsten clusters by electron impact.* Paresh Modak, Sunayan Maiti, Jaspreet Kaur and Bobby Antony.
88. *Electron induced ionization of Boron, Aluminum and Gallium trihalides.* N. Uddin, Pankaj Verma, Vikrant Singh Bais, Vraj Patel and Bobby Antony.
87. *Electron impact ionization cross section of butanol, pentanol and their isomers.* Nafees Uddin and Bobby Antony.

2016**Technical Meeting on Uncertainty Assessment and Benchmark Experiments for Atomic and Molecular****19-21 Dec, 2016****Data for Fusion Applications, IAEA Headquarters, Vienna, Austria.**

86. *Electron interactions with plasma reactive carbon tetrachloride molecule: an extensive cross section study.* J Kaur, P Verma, S Singh, P Modak and Bobby Antony.
85. *Electron scattering by Silane.* Pankaj Verma, Suvam Singh, Paresh Modak, Jaspreet Kaur and Bobby Antony.
84. *Positron scattering cross sections for plasma relevant hydrocarbons.* Suvam Singh, Jaspreet Kaur and Bobby Antony.

International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA 2016),**25-29 Sep 2016****Gunsan, Republic of South Korea.**

83. *Positron scattering cross section for simple molecules.* Suvam Singh, Rahla Naghma, Jaspreet Kaur and Bobby Antony.
82. *Electron impact cross sections for C2-C8 symmetric ether molecules.* Paresh Modak, Suvam Singh, Pankaj Verma, Jaspreet Kaur and Bobby Antony.

International Topical Conference on Charged Particle Collisions and Electronic Processes in Atom,**9-11 Jan, 2016****Molecules and Materials (q-PaCE-2016), Dhanbad, India.**

81. *Positron Impact Total Cross Sections for Noble Gases from Ionization Threshold to 5000 eV.* Suvam Singh, Sangita Dutta, Rahla Naghma and Bobby Antony.
80. *Electron Scattering Cross Sections for Heavy Water.* Paresh Modak, Jaspreet Kaur and Bobby Antony.
79. *Electron Induced Scattering Cross Sections for CF₃X and CF₂X₂ (where X=H, Cl, Br and I) molecules.* Pankaj Verma, Rahla Naghma, Dhanoj Gupta and Bobby Antony.
78. *Effect of Swift Heavy Ion Irradiation on the Capacitance and Conductance Properties of Ni/N-Gap Schottky Diode.* N Shiwakoti, A Bobby, K Asokan and Bobby Antony.
77. *Computation of Electron Impact Total Ionization Cross Section for Alcohols.* Nafees Uddin, Rahla Naghma and Bobby Antony.
76. *Electron Impact Ionization Cross Sections for Organoplatin Compounds: Cisplatin, Carboplatin and Oxaliplatin.* Dibyendu Mahato, Rahla Naghma and Bobby Antony.
75. *Photoionization Cross Section of Carbon Monoxide.* Deb Kumar Rana, Jaspreet Kaur and Bobby Antony.
74. *In-Situ Capacitance and Dielectric Studies of SHI Irradiated Ni/N-GaAs Schottky Diode.* A Bobby, N Shiwakoti, P. M. Sarun, S Verma, K Asokan and Bobby Antony.

2015**4th International Conference on Current Developments in Atomic, Molecular, Optical and Nano****11-14 Mar, 2015****Physics with Applications (CDAMOP-2015), Delhi, India.**

73. *Electron impact ionization of C2 to C6 methanoates.* Jaspreet Kaur, Biplab Goswami, Pankaj Verma and Bobby Antony.
72. *Cross sections for electron scattering from carbon disulfide.* Rahla Naghma, Dhanoj Gupta, Paresh Modak and Bobby Antony.

2014**20th National Conference on Atomic and Molecular Physics (NCAMP-XX), Thiruvananthapuram, India.****9-12 Dec, 2014**

71. *Electron impact ionization of C3 to C7 ethanoates.* J. Kaur, R. Naghma and Bobby Antony.
70. *1-5000 ev electron impact cross sections with germanium tetrafluoride.* B. Goswami, J. Kaur, R. Naghma, D. Gupta, P. Verma and Bobby Antony.

2013**National Conference on Electron Collision Processes in Atomic and Molecular Physics, VP & RPTP****7-9 Mar, 2013****Science College, Gujarat.**

69. *Scattering Studies of Cl₂O by Electron Impact.* Biplab Goswami and Bobby Antony.
68. *Total cross section for Nitrogen dioxide by electron scattering from meV to keV.* Dhanoj Gupta and Bobby Antony.
67. *Electron impact total cross section for F₂O over a wide range of impact energies (0.1-2000 ev).* Dhanoj Gupta and Bobby Antony.
66. *Total scattering cross section of s₂ by electron impact.* Rahla Naghma and Bobby Antony.

2012

DAE-BRNS Symposium on Atomic, Molecular and Optical Physics, IISER-Kolkata.

14-17 Dec, 2012

- 65. *Total and differential cross-sections of electron scattering from allene (C₃H₄)*. D. Gupta, A. Barot, M. Vinodkumar and B. Antony.
- 64. *Total scattering cross section of C₂ and C₃ by electron impact*. R. Nagma, B. Goswami and B. Antony.
- 63. *Calculations of electron impact total cross sections of N₂O*. Minaxi Vinodkumar, Bobby Antony and Mayuri Barot.

National Conference on Advances in Laser and Spectroscopy, ISM Dhanbad.

1-3 Nov, 2012

- 62. *Total ionization cross section of plasma wall coating elements upon electron impact*. Biplob Goswami, Rahla Nagma, Dhanoj Gupta and Bobby Antony.
- 61. *On the electron impact scattering by SF₆ molecule*. Biplob Goswami and Bobby Antony.
- 60. *Electron impact ionization cross sections of Cycloalkanes, Methylcyclohexane and Ethylcyclohexane*. Dhanoj Gupta and Bobby Antony.
- 59. *Influence of organic interlayer on Au/n-GaAs Schottky barrier characteristics*. N Shiwakoti, A Bobby and B K Antony.

Workshop on highly charged ions and atomic collisions, TIFR, Mumbai.

28-31 Mar, 2012

- 58. *Electron impact ionization studies of Silicon Carbon Clusters*. Rahla Nagma, Dhanoj Gupta, Biplob Goswami and Bobby Antony.

2011

3rd International conference on Current developments in Atomic, Molecular, Optical and Nano

14-16 Dec, 2011

Physics, 2011, Delhi University, New Delhi.

- 57. *Electron impact scattering from molecules: A theoretical study*. Bobby Antony and Minaxi Vinodkumar.
- 56. *Calculation of total ionization cross section of SiC₂, Si₂C and Si₂C₂ by electron impact*. Rahla Nagma, Biplob Goswami and Bobby Antony.
- 55. *Total ionization cross sections for Y, Ru, Pd and Ag atoms by electron impact*. Dhanoj Gupta, Rahla Nagma and Bobby Antony.

XVII International Symposium on Electron Molecule Collisions and Swarms, National University of

22-25 Jul, 2011

Ireland, Maynooth, Ireland.

- 54. *Total and ionization cross sections for halogen hydrides by electron impact*. Bobby Antony and Minaxi Vinodkumar.
- 53. *Calculation of total ionization cross section for C₂ by electron impact*. Rahla Nagma, Dhanoj Gupta and Bobby Antony.

2nd DAE-BRNS Symposium on Atomic, Molecular and Optical Physics; Karnatak University,

22-25 Feb, 2011

Dharwad.

- 52. *Theoretical calculations of total cross sections for H₂CO and HCOOH from 0.01 eV to 2 keV on electron impact*. M. Vinodkumar, H. Bhutadia and B. K. Antony.
- 51. *Electron impact total ionization cross sections for atoms (Z=50-54)*. R. Nagma, B. N. Mahato, M. Vinodkumar and B. K. Antony.

2010

9th Asian International Seminar on Atomic and Molecular Physics; Seoul, Korea.

4-8 Oct, 2010

- 50. *Electron impact cross sections from molecules of astrophysical importance*. Bobby K. Antony and Minaxi Vinodkumar.

10th European Conference on Atoms Molecules and Photons, Salamanca, Spain.

4-9 July, 2010

- 49. *Ionization cross sectional study by electron impact for atoms and molecules of applied interest in plasma physics*. Minaxi Vinodkumar, Rucha Dave, Harshad Bhutadia and Bobby Antony.

2nd International Conference on Applied Physics and Mathematics, Kuala Lumpur, Malaysia.

7-10 May, 2010

- 48. *Computation of electron impact cross sections from molecules of astrophysical importance*. Minaxi Vinodkumar and Bobby K. Antony.

2009

XXIII Gujarat Science Congress, Gujarat.

23 Dec, 2009

- 47. *Screening corrections in calculations of various total cross sections for halogen containing molecules*. Minaxi Vinodkumar, Kirti Korot, Chetan Limbachiya and Bobby Antony.

National seminar on recent trends in emerging frontiers of physical sciences; BIT Sindri, Dhanbad.

2-3 Nov, 2009

- 46. *Theoretical studies on electron scattering from astrophysical molecules*. Bobby Antony.
- 45. *Investigations on the Stability and Phase Related Changes of Barrier height and Ideality factor of Ga-pWSe₂ Schottky diode*. Achamma Bobby and Bobby Antony.

XXVI ICPEAC 2009, Kalamazoo, Michigan, USA.

22-28 Jul, 2009

- 44. *Electron impact scattering from astrophysical molecules*. Rahla Nagma, Minaxi Vinodkumar and Bobby Antony.
- 43. *Electron impact various total cross sections for compounds containing C and H*. Chetan Limbachiya, Minaxi Vinodkumar and Bobby Antony.
- 42. *Calculations of electron impact cross sections of environmentally sensitive molecules*. Minaxi Vinodkumar, Kirti Korot and Bobby Antony.
- 41. *Calculations of various total cross section using screening corrections on electron impact for halogen containing molecules*. Minaxi Vinodkumar, Kirti Korot, Chetan Limbachiya and Bobby Antony.

40. Dissociative electron attachment: theoretical study. Bobby Antony.

XVII National Conference on Atomic and Molecular Physics, Inter-University Accelerator Centre, New Delhi, India.

10-13 Feb, 2009

39. Investigation on electron induced collision and ionization of some atmospheric gases. Bobby Antony and Minaxi Vinodkumar.

38. Screening corrections in calculations of total and ionization cross sections for molecules of applied interest in plasma. Minaxi Vinodkumar, Kirti Korot, Chetan Limbachiya and Bobby Antony.

2008

10th Biennial HITRAN Database Conference, Harvard-Smithsonian Center for Astrophysics, USA.

22-24 Jun, 2008

37. Half-widths and Line Shifts for Transitions in the ν_3 Band of Methane in the 2726-3200 cm^{-1} Spectral Region for Atmospheric Applications. Robert R. Gamache, Bobby Antony, Danielle L. Niles, Sarah B. Wroblewski, Caitlin M. Humphrey, Tony Gabard.

19th International Conference on Spectral Line Shapes, Valladolid, Spain.

15-20 Jun, 2008

36. Line Shape Parameters for ν_3 Transitions of $^{12}\text{CH}_4$. Robert R. Gamache, Bobby Antony, Danielle L. Niles, Sarah B. Wroblewski, Caitlin M. Humphrey, Tony Gabard.

11th Annual Student Research Symposium, The University of Massachusetts Lowell, USA.

29 Apr, 2008

35. N_2 -, O_2 - and Air-broadened Half-widths and Line Shifts for Transitions in the ν_3 Band of Methane in the 2726-3200 cm^{-1} Spectral Region. Caitlin M. Humphrey, Robert R. Gamache, Bobby Antony, Danielle L. Niles, Sarah B. Wroblewski, Tony Gabard.

Topical Conference on Atomic and Molecular Physics, Sardar Patel Univ, Gujarat.

3-5 Jan, 2008

34. Collision broadened half-width and pressure induced line shifts for atmospheric applications. Bobby Antony.

2006

The 19th International Conference on High Resolution Molecular Spectroscopy, Prague, Czech Republic.

29 Aug-2 Sep, 2006

33. Non-linear least-squares adjustment of the intermolecular potential parameter for the $\text{H}_2\text{O}-\text{N}_2$ system. Robert Gamache, Peter Gamache and Bobby Antony.

9th Biennial HITRAN Conference, Harvard-Smithsonian Center for Astrophysics, MA, USA.

26-28 Jun, 2006

32. Temperature dependence of N_2 -, O_2 -, and air-broadened half-widths of water vapor transitions: insight from theory and comparison with measurement. R R Gamache, B K Antony and P R Gamache.

31. A semi-empirical adjustment of the vibrational dependence of the polarizability of Ozone for use in line shift calculations. Carlos Szembek, Bobby Antony and Robert Gamache.

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30. Calculation of line shape parameters for self-broadening of water vapor transitions via complex Robert-Bonamy theory. Robert Gamache and Bobby Antony.

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27. Modified complex Robert-Bonamy formalism calculations for strong to weak interacting systems. Bobby Antony, Peter Gamache, Carlos Szembek, Danielle Niles, and Robert R. Gamache.

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26. Self-broadening of water vapor transitions via the modified complex Robert-Bonamy theory. Bobby Antony, Steven Neshyba and Robert R. Gamache.

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25. Electron collisions and ionization of H_2O in ice: the cracking pattern. K. N. Joshipura, A. Bhardwaj, S. P. Khare and B. K. Antony.

24. Electron impact ionization cross sections of atoms (O, Al, Cu) and metal oxides: SCOP formalism. B G Vaishnav, C G Limbachiya, B K Antony and K N Joshipura.

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20-24 Dec, 2004

Ahmedabad.

23. *Theoretical study of electron collisions and ionization of atoms, molecules and clusters.* K N Joshipura and B K Antony.
22. *Electron collisions and ionization processes in astrophysical molecules: H₂O in ice.* K N Joshipura, Anil Bhardwaj, S P Khare and B K Antony.
21. *Theoretical studies on electron scattering and ionization in biomolecular targets.* K N Joshipura, Minaxi Vinodkumar, N J Mason and B K Antony.
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19. *Calculation of ionization cross-sections of free radicals.* K N Joshipura, Minaxi Vinodkumar and B K Antony.

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17. *Electron impact ionization versus excitation in isoelectronic 10-e and 18-e systems: TCS ratio characteristics.* K N Joshipura, Minaxi Vinodkumar, C G Limbachiya and B K Antony.
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13. *Electron-impact total ionization cross-sections of the chlorouoromethanes and related compounds.* B K Antony, N J Mason, Minaxi Vinodkumar and K N Joshipura.
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9. *Electron induced excitation and ionization in Laser produced Plasma.* K N Joshipura, K P Subramanian and B K Antony.
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