

Dr. Arijit Ghoshal

Designation : Professor of Mathematics
Administrative responsibilities : Head, Department of Mathematics, The University of Burdwan
Coordinator, DST-PURSE Phase 2, The University of Burdwan
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Education

- B.Sc., Mathematics (Hons.), Suri Vidyasagar College (Burdwan University), India.
- M.Sc., Applied Mathematics, Burdwan University, India.
- Ph.D., Mathematics (Theoretical Physics), Visva-Bharati, India.

Experience

- Junior and Senior Research Fellow, Council for Scientific and Industrial Research, India.
- Post Doctoral Fellow, Institute of Atomic and Molecular Sciences, Taipei, Taiwan.
- Assistant Professor, Suri Vidyasagar College (Burdwan University), India.
- Assistant Professor & Associate Professor, Burdwan University, India.
- Professor, Kazi Nazrul University, India.
- Professor, Burdwan University, India.

Other experience

- Dean, Faculty of Science, Kazi Nazrul University, India.
- Head, Department of Mathematics, Kazi Nazrul University, India.
- Controller Examinations, Kazi Nazrul University, India.
- Course Coordinator (Mathematics), Distance Education, Burdwan University, India.
- Director, Directorate of Distance Education, The University of Burdwan

■ Award/Recognition

- Visiting Professor, Institute of Mathematical Science, University of Malaya, Malaysia.
- Visiting Professor, Institute of Atomic and Molecular Sciences, Taipei, Taiwan.

■ Research Interests

- Atomic & Molecular collisions.
- Atomic collisions in plasmas.
- Atomic and Molecular structure in plasmas.
- Interaction of positron and positronium with atoms.
- Atoms in external electric and magnetic fields.
- Mathematical physics.

■ Some Recent publications

1. Stability of the helium atom embedded in classical nonideal plasmas – Biswajit Das and **Arijit Ghoshal**, *International Journal of Quantum Chemistry*, 2021;e26649(1-8), (2021).
2. Dynamics of positron scattering from lithium, sodium and potassium atoms in hot and dense plasmas – Nirvik Masanata and **Arijit Ghoshal**, *Chinese Journal of Physics* **71**, 273-285 (2021).
3. Scattering of slow electron from hydrogen atom in non-ideal classical plasmas: Zero-energy resonances – Biswajit Das and **Arijit Ghoshal**, *Physics of Plasmas* **28**, 023506 (1-6) (2021).
4. Electron transfer in proton-hydrogen collisions in dense semi-classical hydrogen plasma - Kamalika Das, Biswajit Das, Pramit Rej and **Arijit Ghoshal**, *Contributions to Plasma Physics* 2021;e202000212 (1-9), (2021).
5. Electron transfer in proton-hydrogen collisions in nonideal classical plasmas - Kamalika Das, Pramit Rej and **Arijit Ghoshal**, *Contributions to Plasma Physics* 2020;e202000080 (1-9), (2020).
6. Stability and collision dynamics of electron–proton in dense semi-classical hydrogen plasma - Akashdip Karmakar, Biswajit Das and **Arijit Ghoshal**, *Physics of Plasmas* **27**, 103509(1-8) (2020).
7. Properties of the Positronium Negative Ion Embedded in Non-ideal Classical Plasmas - Biswajit Das and **Arijit Ghoshal**, *Physical Review E* **101**, 043202 (1-5) (2020).
8. S-wave resonances below the Ps(n=2) threshold in positronic sodium interacting with screened Coulomb potentials – Nirvik Masanta, **Arijit Ghoshal** and Yew Kam Ho, *Indian Journal of Physics* 94(10):1495–1503, (2020).
9. Scattering in non-ideal classical plasmas: Scattering length and zero-energy resonances - Akashdip Karmakar and **Arijit Ghoshal**, *Physics of Plasmas* **26**, 123504 (1-6) (2019).
10. Stability of hydrogen atom in non-ideal classical plasmas - Biswajit Das, Akashdip Karmakar and **Arijit Ghoshal**, *Physics of Plasmas* **26**, 083507 (1-6) (2019).
11. Scattering of charged particles in quantum plasmas: Zero energy resonances - Akashdip Karmakar and **Arijit Ghoshal**, *Physics of Plasmas* **26**, 033514 (1-9) (2019).
12. Charge Transfer in Proton-Hydrogen Collisions under Astrophysical Plasmas - Nirvik Masanta, Sujay Nayek, Akashdip Karmakar, **Arijit Ghoshal** and Kuru Ratnavelu, *Jurnal Fizik Malaysia* **39(1)**, 10054 (2018).
13. Resonances in Positronic Lithium under Quantum Plasmas - **Arijit Ghoshal** and Yew Kam Ho, *Jurnal Fizik Malaysia* **39(2)**, 20001 (2018).

14. Positron Impact Excitations Of Hydrogen Atom Under Lorentzian Astrophysical Plasmas - Biswajit Das, Pramit Rej, MZM Kamali and **Arijit Ghoshal**, *Jurnal Fizik Malaysia* **39(2)**, 30001 (2018).
15. Resonances in positronic lithium in hot and dense plasmas - **Arijit Ghoshal** and Yew Kam Ho, *Physical Review A* **95**, 052502 (1-6) (2017) (2015 Impact Factor: **2.765**).
16. Electron transfer in proton-hydrogen collisions under dense quantum plasma - Sujay Nayek, Arka Bhattacharya, Mohd Zahurin Mohamed Kamali, **Arijit Ghoshal**, and Kurunathan Ratnavelu, *European Physical Journal D* **71: 234** (1-10) (2017). (2015 Impact Factor: **1.208**).
17. Resonances below the Ps(n=2) excitation threshold of the e^+ -He(1s2s $^3S^e$) system interacting with screened potentials - **Arijit Ghoshal** and Yew Kam Ho, *Journal of Physics B* **50**, 075001 (1-7) (2017) (2015 Impact Factor: **1.833**).
18. Positron scattering from hydrogen atom in dense quantum plasmas: Positronium formation in Rydberg states – Pramit Rej and **Arijit Ghoshal**, *Physics of Plasmas* **24**, 043506 (1-10) (2015). (2014 Impact Factor: **2.142**).
19. S-Wave Resonances Below the Ps(n = 2) Excitation Threshold of the Positron–Helium System Embedded in Dense Quantum Plasma - **Arijit Ghoshal** and Yew Kam Ho, *Few-Body Systems* **58**, 138 (1-7) (2017) (Impact Factor: **0.877**).
20. An Investigation on the $He-(1s2s^2\ ^2S)$ Resonance in Debye Plasmas - **Arijit Ghoshal** and Yew Kam Ho, *Atoms* **5**, 2 (1-8) (2017).
21. Excited-state positronium formation in positron–hydrogen collisions under weakly coupled plasmas– Pramit Rej, and **Arijit Ghoshal**, *Journal of Physics B* **49**, 125203 (1-11) (2016). (2015 Impact Factor: **1.833**).
22. Formation of \bar{H} in $\bar{p}-Ps$ collisions embedded in plasmas - Kuru Ratnavelu, **Arijit Ghoshal**, Sujay Nayek, Arka Bhattacharya, and Mohd Zahurin Mohamed Kamali, *European Physical Journal D* **70: 80** (1-6) (2016). (2015 Impact Factor: **1.208**).
23. Scaling law for asymptotic cross section: Electron-hydrogen collisions – Sujay Nayek and **Arijit Ghoshal**, *Chinese Journal of Physics* **54**, 659-667 (2016). (2015 Impact Factor: **0.464**).
24. S-wave resonances below the Ps(n=2) excitation threshold of the e^+ -He system embedded in Debye plasma – **Arijit Ghoshal** and Yew Kam Ho, *European Physical Journal D* **70**, 265 (1-6) (2016). (2015 Impact Factor: **1.208**).
25. Charge transfer in proton-hydrogen collisions under Debye plasma – A. Bhattacharyya, M. Z. M. Kamali, **Arijit Ghoshal** and K. Ratnavelu – *Physics of Plasmas* **22**, 023512 (1-9) (2015). (2014 Impact Factor: **2.142**).
26. Asymptotic cross section and scaling law: positronium formation in Rydberg states in positron–hydrogen collisions – Pramit Rej, and **Arijit Ghoshal**, *Indian Journal of Physics* **90(7)**, 749–757 (2016). (2015 Impact Factor: **1.166**).
27. Positron impact excitations of hydrogen atom embedded in weakly coupled plasmas: formation of Rydberg atoms– Pramit Rej, and **Arijit Ghoshal**, *Physics of Plasmas* **21**, 093507 (1-10) (2014). (2014 Impact Factor: **2.142**).
28. Positron impact excitations of hydrogen atom embedded in dense quantum plasmas: formation of Rydberg atoms– Pramit Rej, and **Arijit Ghoshal**, *Physics of Plasmas* **21**, 113509 (1-10) (2014). (2014 Impact Factor: **2.142**).
29. Rydberg transitions for positron-hydrogen collisions: asymptotic cross section and scaling law – Pramit Rej, and **Arijit Ghoshal**, *Journal of Physics B* **47**, 015204(1-8) (2014). (2015 Impact Factor: **1.833**).