

Curriculum Vitae



Personal Information

Rajkamal Kakoti, Ph.D.

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Address of Correspondence

Department of Physics, Bhawanipur Anchalik College

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Nagaon-782141

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Languages: Assamese, English, Hindi

Academic Qualifications

Ph.D. in Physics: North Eastern Regional Institute of Science and Technology, Nirjuli, Arunachal Pradesh, India (2022)

- Thesis title: *Study of Some Nonlinear Wave Phenomena in Multicomponent Plasma*

M.Sc. in Physics: Indian Institute of Technology Guwahati, Assam, India, CPI=6.59 (2015)

- Elective Papers : *Quantum Optics, Magnetism and Superconductivity, Thin Film Phenomena*

B.Sc. (Honours) Physics: Nowgong College affiliated to Gauhati University, Nagaon, India (% of marks=77.7 (2013)

Fellowship

Ph.D. Gate fellowship awarded by Ministry of Education (Govt. Of India)

- JRF (July 2016-July 2019)
- SRF (July 2019-March 2021)
- Chief Minister of Assam Fellowship to IITians (2014) (By Govt. of Assam)
- Fellowship from Assam Air Products Pvt. Ltd, Guwahati, Assam (2014)

National/State level exams qualified

IIT JAM, GATE, SLET

Research experiences

Research interests:

Plasma Physics, Nonlinear dynamics, Soliton, Computational Physics

Research publications:

1. **R. Kakoti** and K. Saharia, *Effect of nonextensivity on the characteristics of supersolitons in a two-temperature electron plasma*. Contributions to Plasma Physics, 2020. **60**(3): p. e201900167. (SCD)

2. **R. Kakoti** and K. Saharia, *Effects of adiabaticity of electrons and negative ions on the modulational instability of ion-acoustic waves in electronegative plasma*. Eur. Phys. J. D, 2020. **74**(11): p. 219.(SCI)
3. **R. Kakoti** and K. Saharia, *The overtaking interaction of electron acoustic solitary waves in a plasma with hot nonextensive electrons*. Radiation Effects and Defects in Solids, 2022. **176**(3): 1-17(SCI)
4. **R. Kakoti** and K. Saharia, *Study of formation of Rogue waves in an electronegative plasma with nonextensive electrons*. AIP Conference Proceedings, 2022. **2357** : 040005 (Scopus)
5. **R. Kakoti** and K. Saharia, *The Dust Ion Acoustic Rogue Waves In A Plasma With Maxwellian Negative Ions*. AIP Conference Proceedings, 2022. **2357** : 040015 (Scopus)
6. **R. Kakoti**, *Study on Domain of Existence of Ion-Acoustic Soliton, Double Layer and their Coexistence in a Three Component Nonextensive Plasma: A Fully Nonlinear Sagdeev Potential Approach*. Research Trends and Challenges in Physical Science Vol. 8, ISBN: 978-93-5547-519-0 (Book Chapter)
7. **R. Kakoti**, *Hirota's Bilinear Method to Study Interaction of Electron Acoustic Solitons in Nonextensive Plasma*. Recent Review and Research in Physics, Vol-1, ISBN: 978-93-5547-527-5 (Book Chapter)

Important conferences:

1. **R. Kakoti** and K. Saharia, *Arbitrary amplitude electron-acoustic solitons in a three component plasma with Tsallis nonextensive hot electrons*, 12th International conference on Plasma Science & Applications (ICPSA-2019), organised by University of Lucknow. (Poster presentation)
2. K. Saharia and **R. Kakoti**, *Effect of cold electron density on the amplitude of the supersolitons in a nonextensive plasma with two-temperature electrons*, 12th International conference on Plasma Science & Applications (ICPSA-2019), Organised by University of Lucknow
3. **R. Kakoti** and K. Saharia, *Study of the Formation of Rogue Waves in an Adiabatic Electronegative Plasma*, International e-Conference on Plasma Theory and Simulations (PTS-2020), Organised by Guru Ghasidas Vishwavidyalaya (A Central University) Bilaspur (C.G.) India. (Contributory Oral talk)
4. Dima Rani Borgohain, **R. Kakoti** and K. Saharia, *Role of two-temperature q-nonextensive electrons on Collisional Plasma Sheath*, 32nd National Symposium on Plasma Science & Technology (PSSI-2017). (poster presentation)

Teaching experiences

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- Assistant Professor in the Department of Physics, Bhawanipur Anchalik College (June-2023- till date)
 - Worked as Guest Faculty in the Department of Applied Science, Physics at Tezpur University (March-2023-May-2023) (B.Tech CSE Branch, Physics II, PH-104)
 - Both Theory and Lab classes of Base-module, B.Tech students as part of teaching assistance during PhD in the Dept. of Physics, NERIST, from August-2016 to March-2020.

Computing Skills

Programming Languages

- Assembly, C, C++, Python, JAVA, Matlab, Mathematica
- Embedded systems programming, PLC, Automation/robotics
- Application Softwares like Autodesk Fusion 360 CAD tool, MS office, Adobe PS etc.