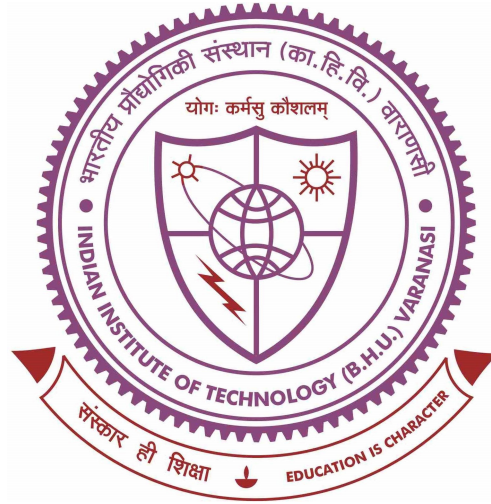


# Study of Waves and Quasiperiodic Plasma Processes in the Solar Atmosphere



**Thesis submitted in partial fulfillment for the  
Award of Degree**

**Doctor of Philosophy**

by

**Kartika Sangal**

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**2024**



## CERTIFICATE

It is certified that the work contained in the thesis titled **Study of Waves and Quasiperiodic Plasma Processes in the Solar Atmosphere** by Ms. **Kartika Sangal** (Roll No. **18171509**), in partial fulfillment of the requirement for the award of the degree of Doctor of Philosophy at the **Indian Institute of Technology (B.H.U.), Varanasi** is a record of her own work carried out under my supervision and guidance and this work has not been submitted elsewhere for a degree.

It is further certified that the student has fulfilled all the requirements of Comprehensive Examination, Candidacy, and SOTA for the award of Ph. D. Degree in Physics.

*Abhishek K. 18/06/2024*

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I, **Kartika Sangal** (Roll No. **18171509**), certify that the work embodied in this thesis is my own bonafide work and carried out by me under the supervision of **Dr. Abhishek K. Srivastava** from January 2019 to December 2023 at the *Department of Physics*, Indian Institute of Technology (BHU), Varanasi. The matter embodied in this thesis has not been submitted for the award of any other degree/diploma. I declare that I have faithfully acknowledged and given credits to the research workers whenever and wherever their works have been cited in my work in this thesis. I further declare that I have not wilfully copied any other's work, paragraphs, text, data, results, *etc.*, reported in journals, books, magazines, reports dissertations, thesis, *etc.*, or available at websites and have not included them in this thesis and have not cited as my own work.

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Place: IIT (BHU), Varanasi

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It is certified that the above statement made by the student is correct to the best of my knowledge.

Supervisor

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Signature of the Head of the Department

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*In the Honour*  
*of*  
**My Parents**



## Acknowledgements

I want to start by thanking my parents, Mrs. Vijaylaxmi and Mr. Rakesh kumar Singhal. Their love, support, and sacrifices have been the foundation of my journey through school. Without their endless support and belief in my abilities, I would not have reached this milestone. Their guidance and encouragement have been my source of strength, motivating me to pursue excellence in all endeavors. I will forever cherish their presence in my life and will always be thankful for their unwavering faith in me.

I am deeply indebted to my supervisor, Dr. A.K. Srivastava, whose guidance and expertise have been invaluable throughout this research journey. His unwavering support, patience, and encouragement have empowered me to navigate the challenges of doctoral study with confidence. His insightful feedback and constructive criticism have not only shaped the direction of this thesis but also fostered my growth as a researcher. I am truly grateful for his mentorship, which has left an indelible mark on my academic development.

I am deeply thankful to Research Progress Evolution Committee (RPEC) members, Dr. Pawan K. Aluri and Dr. Rajesh Pandey for their insightful feedback and constructive criticism, which significantly enriched the quality of this work. Special thanks to University Grants Commission (UGC) for their financial support, which enabled me to conduct this research and pursue my doctoral studies.

I would like to express my deep gratitude to Dr. Pradeep Kayshap from VIT, Bhopal, India, for his constant help during the initial phase of my research work. His technical expertise has greatly benefited me in shaping my scientific works. I would also like to extend my sincere thanks to Dr. T. J. Wang from NASA-GSFC, USA for his collaborations

in my one scientific paper. Additionally, I am grateful to Dr. Sudheer Mishra from Kyoto University, Japan, for his collaborations in a research project on quasi-periodic pulsations, and his constant advice on various techniques. Furthermore, I express my gratitude to Dr. Ding Yuan from HIT, Shenzhen, China, for his collaboration on the work related to the BBSO ground-based high-resolution observations provided by him. I am deeply indebted to him for facilitating a visit to HIT that was financially supported, along with travel expenses covered to work on the BBSO solar observations and related science. Moreover, I acknowledge the use of IRIS, SDO/AIA, SDO/HMI, BSSO/GST/VIS observations, as well as wavelet tools. I also thank and acknowledge to Prof. Wenda Cao and Prof. V.B. Yurchyshyn for BBSO observational data.

I also thank my co-authors from whom I have learnt considerably. I wish to thank my colleagues (Ritika Solanki, Sudheer K. Mishra, Yamini K. Rao, Balveer Singh, Shweta Didel, Srikar Paavan T, Sripan Mondal, Akash Bairagi, Abhinav Prashad) of the Solar Physics group in the Department for their help, support and several productive discussions. I want to extend special thanks to Shweta Didel for making my days in the lab, as well as outside the lab, memorable.

I would like to express my heartfelt gratitude to all the members of fivestars (Samiksha, Monia, Nidhi, Vindya) who have been a constant source of support and encouragement throughout my Ph.D. journey. I would like to thank all the members of energetic peeps (Shubham, Samiksha, Shweta, Neha, Ashish, Pawan, Sachin, Santosh, Kaustubh, Harsh, Anuvrath, Monia, Akassha, Saurabh) and Shivam for being a source of strength, laughter, and inspiration, making this journey not only bearable but also memorable. I wish to thank my other special friends (Swati and Amit) for your constant support throughout my Ph.D Journey. I want to thank you all for always being there for me and for making this

experience truly unforgettable.

I want to give a huge thank you to my siblings, Ankita, Tripti, Ayush, and brother-in-law Nikunj for their unwavering support and encouragement throughout my Ph.D. adventure. Your love and encouragement, especially during the tough times, meant everything to me. Thanks for always being there for me, cheering me on, and reminding me of what's important. I am also blessed to have my cute niece (Naisha) for being such a bundle of joy in my life. I want to extend my heartfelt appreciation to my in-laws Ms. Renu and Mr. Brijbhushan for their love and support. I want to express my gratitude to my sister-in-law, Neeru, for her incredible support and encouragement.

I want to express my deepest gratitude to my husband, Shubham Garg, for being my rock throughout this entire Ph.D. journey. Your unwavering love, support, and understanding have been my guiding light through every challenge and triumph. Your belief in me never wavered, even when I doubted myself. I could not have done this without your constant encouragement and sacrifices. Thank you for being my partner in every sense of the word and for always standing by my side.

Finally, I wish to thank one and all for extending their cooperation directly or indirectly.

