

Lekshmi Thulasidharan

CONTACT INFORMATION

521 West Doty St
Apartment 5
Madison, Wisconsin- 53703
United States

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EDUCATION

University of Wisconsin Madison, United States *2019 - Present*
PhD in Physics
University of Wisconsin Madison, United States *2019 - 2021*
Master of Arts in Physics (CGPA: 3.73/4.00)
Central University of Tamil Nadu, India *2014 - 2019*
Integrated M.Sc in Physics (CGPA: 9.52/10)

RESEARCH EXPERIENCE

PhD research on **Vertical Oscillations in the Milky Way disk**
Supervisor: Prof. Elena D’Onghia *August 2020- Present*

University of Wisconsin-Madison, USA

- Currently working on constraining the kinematics of the recently discovered feature-’Radcliffe wave’, in the solar neighborhood.
- Also looking for signatures of vertical oscillations in the Galactic disk beyond this structure.

Research Project on **IceCube-Gen2 Trigger Studies**

Supervisor: Prof. Albrecht Karle *January-July 2020*

University of Wisconsin-Madison, USA

- Simulation studies to calculate the efficiency of different trigger configurations for IceCube Gen2 geometry.

Masters’ Thesis on **Dark Matter in the Local Group**

Supervisor: Prof. Somak Raychaudhury *December 2018- April 2019*

Inter-University Center for Astronomy and Astrophysics, India

Co-Supervisor: Dr. M. Ponmurugan

Central University of Tamil Nadu, India

- Revisited the timing argument problem to estimate the mass of the Local Group, by including the effects of Dark Energy and Tidal effects.

Summer Research Project on **J/ψ , Υ and Z studies with CERN Open Data**

Supervisor: Dr. Achim Geiser *July-September 2018*

Deutsches Elektronen-Synchrotron (DESY), Germany

- The validation of 2010 Compact Muon Solenoid (CMS) open data is done for the full statistics, by successfully reconstructing the J/ψ , Υ and Z decay channels.

Summer Research Project on **Detection of Low Momentum muons with Belle detector**

Supervisor: Prof. Gagan Mohanty *Summer 2018*

Tata Institute of Fundamental Research, India

- Using $J/\psi \rightarrow \mu^+\mu^-$ decay channel as a control sample, we implemented ‘Boosted Decision Trees’ in ROOT, to calculate the muon identification efficiency and the fake rate using the information from the subdetectors other than the outermost KLM detector of the Belle experiment.

Summer Research Project on **Probing the Dark Matter Halo of the Milky Way**

Supervisor: Prof. Somak Raychaudhury *Summer 2017*

Inter-University Center for Astronomy and Astrophysics, India

- Mass determination of Milky Way was done by exploiting the kinematics of tracers in the Galactic Halo. Most recent data of tracers such as Globular Clusters, Dwarf Galaxies and K-Giant Stars were used.

IASc-INSA-NASI Summer project on **Synthesis and Characterisation of Core/Shell Semiconductor Nanoplatelets by Colloidal Atomic Layer Deposition(CALD)Technique**
Supervisor: Dr. Sameer Sapra *Summer 2016*

Indian Institute of Technology Delhi, India

- Investigated the effect of thickness of shell as well as the surface terminating anionic and cationic layer on the optical properties of CdSe/CdS quasi-type-II system.
- The work has been published in an internationally peer reviewed journal.

TEACHING
EXPERIENCE

Graduate Teaching Assistant

Department of Physics

Fall 2019, Fall 2020, Spring 2021, Fall 2021

University of Wisconsin-Madison

- Teaching assistant for calculus based 200 level Mechanics course for engineering students.
- Responsibilities include conducting weekly discussions and labs as well as grading exams and lab reports.

PUBLICATIONS

S. Yadav, A. Singh, **L. Thulasidharan** & S. Sapra, "Surface Decides the Photoluminescence of Colloidal CdSe Nanoplatelets Based Core/Shell Heterostructures", *J. Phys. Chem.C*, 2018, 122, 820

CONFERENCES AND
WORKSHOPS

- (Talk) **SDSS Collaboration Meeting 2021** (virtual) *August 2021*
- (Attendee) **Gaia EDR3 Early Science and Best Practices Online Workshop** *June 2021*
- (Attendee) **52nd Division for Dynamical Astronomy virtual meeting** *May 2021*
- (Attendee) **8th ARIES training school in Observational Astronomy** *March 2018*
Aryabhata Research Institute of Observational Sciences, Nainital, India
- (Attendee) **Conference on Galactic Evolution and Dynamical Structures** *January 2018*
Inter-University Center for Astronomy and Astrophysics, Pune, India
- (Attendee) **Refresher Course in Astronomy and Astrophysics** *May-June 2017*
Inter-University Center for Astronomy and Astrophysics, Pune, India

HONORS, AWARDS
AND

ACCOMPLISHMENTS

- Recipient of INSPIRE Scholarship from 2014-19 (Funded by Department of Science and Technology, India).
- Invited by MHRD to witness 70th Republic day from the Prime Minister's box as a guest of Hon'ble Prime Minister of India, in recognition of the excellent academic performance.
- Fellowship: Summer Student Programme at Deutsches Elektronen-Synchrotron (DESY), Germany (July-September 2018).
- Fellowship: Visiting Students' Research Programme (VSRP), at Tata Institute of Fundamental Research, Mumbai (May-July 2018).
- Fellowship: Vacation Students Programme(VSP), The Inter-University Center for Astronomy and Astrophysics,Pune (May-July 2017).
- Fellowship: IASc-INSA-NASI Summer Research fellow at Indian Institute of Technology, Delhi(May-July 2016) .