MITP
Mandelstam Institute for Theoretical Physics

NITheCS
National Institute for
Theoretical and Computational Sciences

S E M I N A R

Searching for light accelerated dark matter

Dr Gopolang Mohlabeng
Simon Fraser University, Canada

Date:
Friday, 26 July 2024

Time:
14h00-15h00 SAST

Venue:
- P213, Physics Building, East Campus, WITS
- Online

Who should attend?
All are welcome!

Enquiries:
Email Farah-Naaz Samuels:
farah-naaz.samuels@wits.ac.za

ABSTRACT:
Low mass accelerated dark matter (DM) is very well motivated and has been a subject of much attention in the literature. These fast-moving particles can gain enough kinetic energy to surpass the energy thresholds of some Large volume terrestrial detectors. For instance, fast-moving DM can deposit sizable amounts of energy at both large volume neutrino detectors and dark matter direct detection experiments. In this talk, I will focus on searches for both multi-component "boosted" DM and cosmic-ray accelerated DM. I will present recent and on-going work which explores these accelerate DM scenarios using a variety of probes.

Dr Gopolang Mohlabeng was born and raised in Atteridgeville, Pretoria. He holds a bachelor's degree in physics from the University of Pretoria and honours in astrophysics from the University of Cape Town. He then earned an MSc and PhD in theoretical particle physics from the University of Kansas. After this, he moved to Brookhaven National Laboratory as a postdoctoral research associate and for another position as a postdoctoral fellow in the McDonald Institute for Astroparticle Physics at Queen's University in Canada. A year later, he moved to the University of California, Irvine, as a UC Chancellor's Advanced Postdoctoral Fellow. In 2023, he moved to Canada to fill a position as Assistant Professor in the Physics Department at Simon Fraser University. His specialty is astroparticle theory and cosmology. His main research focus is on phenomena beyond the standard model of particle physics, in particular, uncovering and understanding the particle nature of dark matter.

REGISTER: https://bit.ly/4d5ve1J

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

NRF National Research Foundation

WITS UNIVERSITY

Stellenbosch UNIVERSITY IYUNIVESITHI UNIVERSITEIT