S N BOSE NATIONAL CENTRE
FOR BASIC SCIENCES
Block JD, Sector III, Salt Lake, Kolkata 700 106

DEPARTMENTAL SEMINAR

Condensed Matter and Materials Physics

24th August'2022 **4.00 PM** **ONLINE/ FERMION**

SPEAKER

Dr. PARAMITA DUTTA,
Assistant Professor
Theoretical Physics Division
Physical Research Laboratory, Ahmedabad

TITLE OF THE TALK

BOGOLIUBOV FERMI SURFACE AND EXOTIC COOPER PAIRS IN J=3/2 SUPERCONDUCTORS

ABSTRACT

I will talk about the Bogoliubov Fermi surface (BFS), where the superconducting energy gap is closed across a finite area. This exotic Fermi surface is mostly found in strongly spin-orbit coupled superconductors with total angular momentum quantum number j=3/2. In addition to the traditional spin-singlet BCS pairings, there can be an ample number of exotic Cooper pairs in these j=3/2 superconductors. During my talk, I will classify those pairings and establish their connection to the exotic BFS.

HOST FACULTY

Prof. Priya Mahadevan

Senior Professor & HoD, CONDENSED MATTER AND MATERIALS PHYSICS

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