

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
2A&B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032, India

Seminar Notice

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School of Physical Sciences

Title:	Consistent canonical derivation of the Hawking effect for Kerr black holes
Speaker:	Subhajit Barman, IISER Kolkata
Date:	November 20, 2018 (Tuesday)
Time:	4:00 p.m.
Venue:	Physics Seminar Room (C406), 3rd Floor, Centenary Building, IACS
Abstract:	It is believed that extremal black holes do not emit Hawking radiation as understood by taking extremal limits of non-extremal black holes. However, it is debated whether one can make such conclusion reliably starting from an extremal black hole, as the associated Bogoliubov coefficients which relate ingoing and outgoing field modes do not satisfy the required consistency condition. We address this issue in a canonical approach firstly by presenting an exact canonical derivation of the Hawking effect for non-extremal Kerr black holes. Subsequently, for extremal Kerr black holes we show that the required consistency condition is satisfied in the canonical derivation and it produces zero number density for Hawking particles. We also point out the reason behind the reported failure of Bogoliubov coefficients to satisfy the required condition

All are cordially invited to attend the seminar