

University of Hyderabad

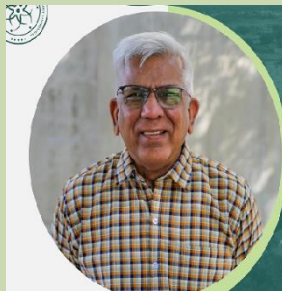
School of Mathematics and Statistics

SRI. BHAGAVATULA RAMAMURTHY & SMT. BHAGAVATULA SARADAMBA

18TH MEMORIAL LECTURE

“Mackey Imprimitivity and commuting tuples of homogeneous normal operators”

Speaker



Prof. Gadadhar Misra

Visiting Professor, Department of Mathematics, IIT, Gandhinagar.

Former Professor ISI, Bangalore.

Abstract

In this talk, I will attempt to describe the relationship between the imprimitivity introduced by Mackey several decades ago and commuting d -tuples of homogeneous normal operators. The Hahn-Hellinger theorem gives a canonical decomposition of a $*$ -algebra representation ρ of $C_0(\mathbb{S})$ (where \mathbb{S} is a locally compact Hausdorff space) into a direct sum. If there is a group G acting transitively on \mathbb{S} and is adapted to the $*$ -representation ρ via a unitary representation U of the group G , in other words, if there is an imprimitivity, then the Hahn-Hellinger decomposition reduces to just one component, and the group representation U becomes an induced representation, which is Mackey's imprimitivity theorem. We consider the case where a compact topological space $S \subset \mathbb{C}_d$ decomposes into finitely many G -orbits. In such cases, the imprimitivity based on S admits a decomposition as a direct sum of imprimitivities based on these orbits. This decomposition leads to a correspondence with homogeneous normal tuples whose joint spectrum is precisely the closure of G -orbits.

This talk is based on my work with E.K. Narayanan and Cherian Varughese.

About the Speaker

Prof. Gadadhar Misra:- (born 1 March 1956) is an Indian mathematician who specializes in operator theory. He was born at Bhubaneswar in the state of Odisha to Prof. Chakrapani Mishra and Smt. Arunabala Mishra. He studied at DM School, BJB College, Sambalpur University (Masters, 1979) and State University of New York in USA (PhD, 1982). He taught at Indian Statistical Institute (ISI), Kolkata and Bengaluru before joining the Indian Institute of Science (IISc), Bengaluru. Visiting professor, department of mathematics, IIT Gandhinagar. He was awarded the Shanti Swarup Bhatnagar Prize for Science and Technology in 2001, the highest science award in India, in the mathematical sciences category. He was awarded the Biju Patnaik Award for Scientific Excellence by Odisha Bigyan Academy in 2013. J. C. Bose National Fellowship (2008-present).

All are invited

Date: 07th March, 2024

Time: 4.00 P.M (Online)

Venue: Seminar Hall-1, School of Mathematics and Statistics