National Institute of Technology Rourkela

Departmental Seminar

Seminar Title	: Linear Control System on Lie Supergroup and its Controllability
Speaker	: Aroonima Sahoo
Supervisor	: Aroonima Sahoo
Venue	: Seminar Room, Department of Mathematics
Date and Time	: 04 Jul 2024 (11.15AM)
Abstract	: In this work, we deal with the linear control system Σ having the state-space as Lie supergroup G. The dynamic of the system consists of a drift vector field and control vectors. The drift vector field lies in the normalizer of Lie superalgebra g corresponding to Lie supergroup G whereas the control vectors are the left-invariant vector fields of G. Many literature studies are available on the study of control system on Lie group but here we are trying to generalize these notions into Lie supergroup which is a supermanifold having group structure. Here, we establish the notions of Controllability in case of Lie supergroup and using the tools of supergeometry we develop the rank condition analogous to Lie algebra rank condition to study the Controllability of such dynamical systems.