PMRF-ISSS Teaching Programme

Prime Minister Research Fellowship students' teaching requirement facilitated by the Institute of Smart Structures and Systems

Module PMRF-ISSS128

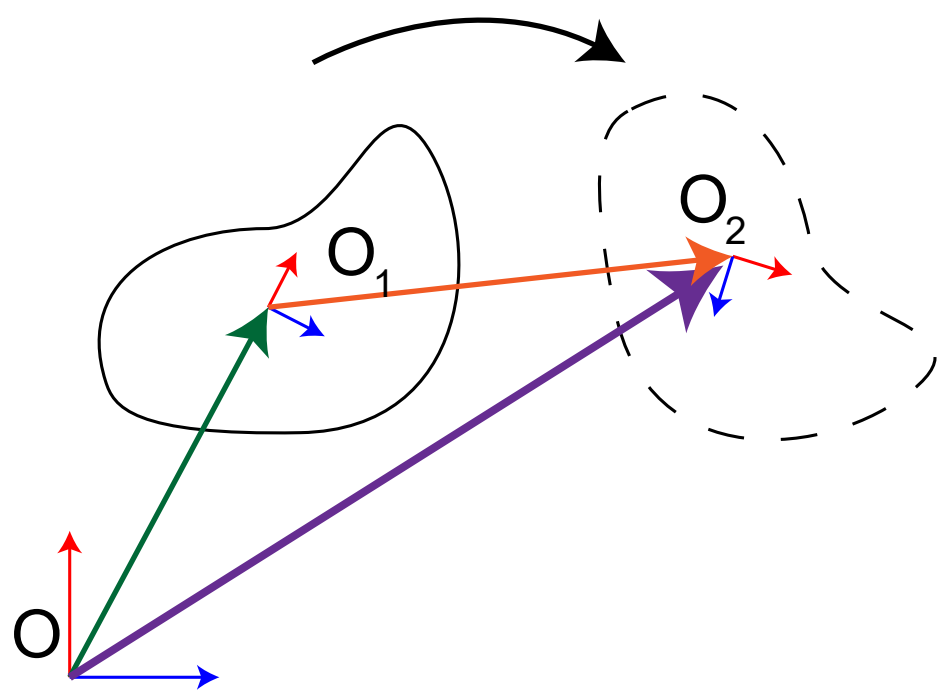
Introduction to Rigid Body Mechanics

Name of the PMRF student

Vivek Khatua

Required background of the students taught

- Basic of Vector Algebra
- Basic of Differential Calculus
- Newton's Laws of Motion



Details of the content of the module

1. Introduction and basics of vector and linear algebra.
2. Representation of frames and axes.
3. Rotation and coordinate transformation matrices.
4. Kinematics of rigid bodies
5. Dynamics of a rigid body
    1. Newton – Euler's Formulation
    2. Euler –Lagrange Formulation
6. Introduction to Robotics
    1. Serial Manipulators
    2. Parallel Manipulators

Mode of Teaching: Online

For a certificate and a grade, interested students can take a test at the end of the course.

Schedule of the module

Course will commence on August 19, 2024.

Every week Mondays 3PM-5PM and Friday 3-4 PM lectures will be conducted.

Last class will be on 30th September 2024.

Meeting link : https://meet.google.com/efe-ygch-ppz

Contact email ID: isss.forum@gmail.com

Registration link:

https://forms.gle/SNSAz8cY8Q5k9wEo 8