PMRF-ISSS Teaching Programme

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

Module PMRF-ISSS030/II/2024
Matrix Computations

Name of the PMRF student
Kain Dipendrasingh, Aerospace Engineering, IISc.

Required background of the students taught
Any undergraduate and graduate student with basic understanding of linear algebra and vector spaces.

### Online session coordinator
Will be chosen from the list of registrants

Details of the content of the module

This is an advanced level course on applications of linear algebra to solve system of linear equations.

1. Vector spaces, system of linear equations.

2. Triangular matrices, choleskey decomposition, sensitivity of linear system, vector and matrix norm.

3. Iterative methods: Jacobi, Gauss Siedel, Successive Over Relaxation.

4. Descent Methods: Steepest descent, Conjugate gradient.

5. Least square method to solve over determined system.

6. Gram Schmidt orthonormalization.

7. Eigenvalues and eigenvectors.
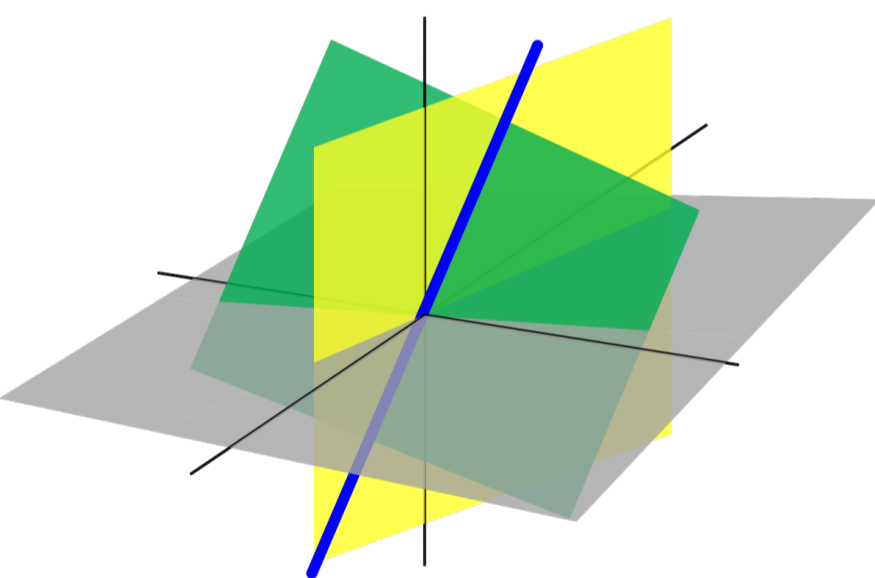
Schedule of the module

Course starts : March 30, 2024

Course ends : July 31, 2024 (Tentative)

Classes on : Saturday

Timings : 7:00 pm to 8:30 pm

Class timings can be managed according to the convenience of the students

Meeting link : Will be shared later

Link

Contact email ID: isss.forum@gmail.com , kains@iisc.ac.in

Registration link:
https://forms.gle/Q6JEUt2v4ZHNECv68