



Module PMRF-ISSS053/2024

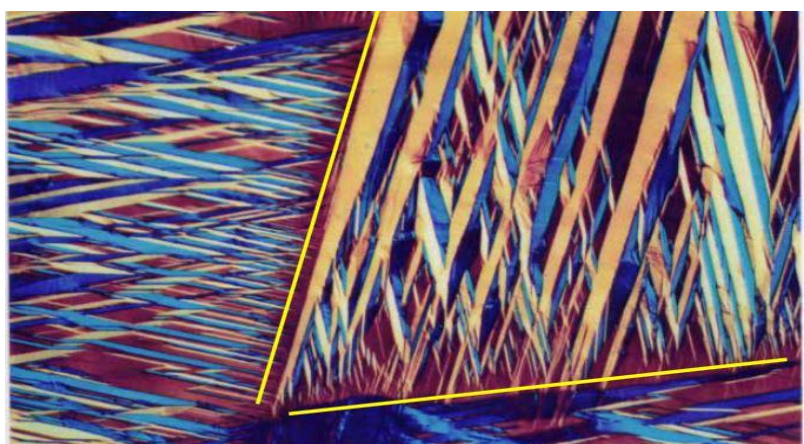
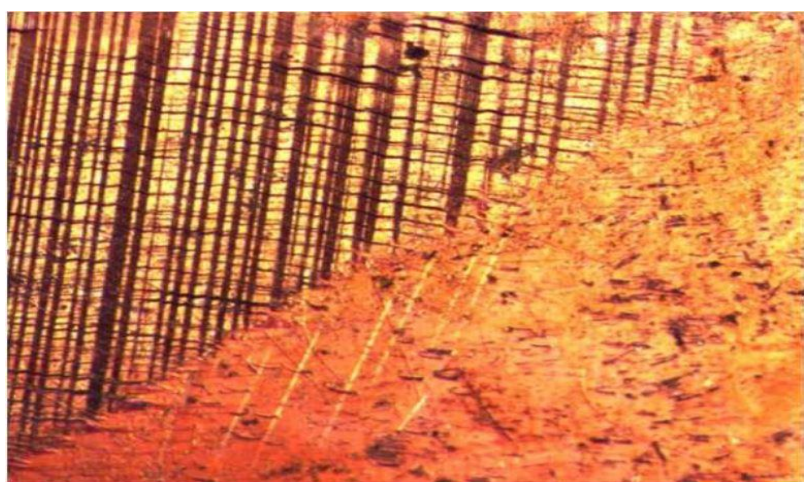
Microstructural Mechanics of Shape Memory Alloys

Name of the PMRF student

Mohd Tahseen

Required background of the students taught

Discipline(s) : Mechanical /
Aerospace / Materials Engineering



Details of the content of the module

The module will comprise of 25 hours of lecturing, spread over a span of 4 months. The following topics will be covered :

1. Review of continuum mechanics
 - Kinematics of deformation , balance laws, boundary value problems in elasticity theory
2. Continuum Theory of Crystalline Solids
 - Symmetry, Deformation of lattices, Cauchy Born hypothesis, Multi-lattices
3. Martensitic Phase Transformations
 - Transformation matrices, energy wells, Twinning, microstructure of martensite, crystallographic theory of martensite
4. Special Microstructures
 - Twins within Twins, Wedge-like microstructure

Schedule of the module

Start date : 24 March, 2024

End date : 8th May, 2025 (tentative)

*Recorded lectures will be uploaded every Sunday at
7pm IST

Meeting link : Will be shared later

[Link](#)

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Registration link: