Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy Dist., Hyderabad – 500 046

Seminar

Photonic Topological Edge States and Solitons

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Topological photonics has emerged as a vibrant research field, enabling the realization of robust optical states that are immune to defects and disorder. Inspired by concepts originally developed in condensed matter physics, it offers exciting opportunities for both fundamental science and photonic technologies. In this seminar, I will discuss how waveguide-based photonic topological networks can be engineered through periodic (Floquet) modulation. I will describe how these structures are fabricated using the femtosecond laser writing technique and present our experimental observation of backscattering-immune unidirectional edge transport. In the second part of the seminar, I will present the interplay between Kerr nonlinearity and dissipation in bath-coupled Floquet topological systems.

Tuesday, Jul 21st 2026

16:00 Hrs (Tea / Coffee 15:45 Hrs)

Auditorium, TIFRH