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

Seminar

Reflectionless Potentials: from Plane Waves to Structured Light

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We start with a basic description of structured light and introduce the notion of reflectionless potentials in the context of plane waves. We follow the Kay-Moses prescription for constructing the infinite family of reflectionless potentials. One particular example of this is the Poschl-Teller (or sech-squared potential) covered in standard QM text books. We further demonstrate how these potentials can be translated into realistic optical anti-reflection coatings leading to near total transmission. Finally we show that these potentials are almost as good for structured beams representing a collection of plane waves. Final results are presented avoiding intricate mathematical details.

Thursday, Jul 11th 2024

11:30 Hrs (Tea / Coffee 11:15 Hrs)

Auditorium, TIFR-H