



ÇANKAYA UNIVERSITY

Department of Mathematics

## SEMINAR

# Spectral Analysis of the Klein–Gordon Operator with Impulsive Conditions via Transfer Matrices

Speaker: Dr. İbrahim ERDAL

Date: 27.02.2026

Time: 14:20

Place: R213-Seminar Room

**Abstract:** In this presentation, the intricate spectral landscape of the Klein-Gordon s-wave equation under interface conditions will be thoroughly examined. Throughout the talk, the derivation of the differential operator associated with these impulsive effects will be presented. The core of the discussion will focus on the transfer matrix method and the resolvent operator, where it will be demonstrated that the zeros of the transfer matrix components coincide precisely with the poles of the resolvent. Furthermore, the characterization of eigenvalues and spectral singularities will be addressed through an alternative mathematical approach. Finally, the conditions under which the finiteness of these spectral sets is guaranteed will be established.