YEDİTEPE UNIVERSITY

MATHEMATICS DEPARTMENT SEMINARS

Orientations of Vector Spaces and Manifolds

Yıldıray Ozan (Middle East Technical University)

Abstract: In this talk, we will first define an orientation of a real vector space. After introducing the natural orientation of complex vector spaces, we will discuss the orientations of manifolds. In this context, we will discuss the geometric consequences of the natural orientations of complex manifolds. Finally, we will discuss the inability of the real projective plane, the simplest example of an unorientable manifold, to be embedded in three-dimensional Euclidean space. If time permits, we will discuss a geometric consequence of this result.

Date: 12 December 2025, Friday

Time: 13:00

Place: Yeditepe Math Seminar Room

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