



istanbul matematiksel bilimler merkezi  
istanbul center for mathematical sciences

# TRACES AND LOOPS

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## Abstract

This talk will focus on the interplay between two basic notions originating in algebra and topology. In algebra, there is the trace of a matrix, important for its equality with the sum of the eigenvalues of the matrix. In topology, there are the loops on a space, which play a central role in the computation of homotopy groups and in the structure theory of spaces. There is a well-developed understanding of the intimate relation between traces and loops coming from non-commutative geometry and mathematical physics. We will explain how modern formulations elucidate fundamental identities in geometry and representation theory.

**Date :** Friday, November 9, 2012

**Time:** 14:00

**Place:** IMBM Seminar Room, Boğaziçi University South Campus

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