

## **abstract**

ANALYSIS/MATHEMATICAL PHYSICS SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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For many elegant mathematical examples, one can 1) find theories behind them, 2) understand why they exist in the first place, 3) explore the consequences in math and physics. If one takes the Euler number as such an example, then the theory behind it is the theory of characteristic classes for which vector bundles provide the natural home settings. In this talk, I would argue that the Kepler problem for the planetary motions is another such an example for which simple euclidean Jordan algebras provide the natural home settings for the general theory. This general theory for the Kepler problem could have been discovered in the late 1960's, and it is intimately related to harmonic analysis on symmetric domains and related (infinite dimensional) unitary lowest weight modules. This talk is intended to be non-technical.