

*Department of Mathematics,
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Math 295 - Mathematics Colloquium

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Classification and decomposition problems in symplectic linear algebra

Abstract:

In symplectic manifolds, isotropic, coisotropic, and lagrangian submanifolds play a central role, and their study leads to deep problems in symplectic geometry and topology. It turns out that the linearized version of this study is already quite non-trivial. The classification of pairs of isotropic subspaces in a symplectic vector space turns out to be rather simple, but for isotropic triples, it is much more complicated. In particular, there are families of inequivalent indecomposable isotropic triples depending on one parameter (but no more).

In these talks, I will report on progress on this problem in ongoing work with Christian Herrmann (University of Dartmstadt) and Jonathan Lorand (University of Zürich). In the colloquium talk on Thursday, I will explain the background for this problem, describe our results, and give an idea of the methods being used to solve it. In addition to elementary linear algebra, these include methods from the representation theory of quivers and partially ordered sets. I will give more details in the seminar talk on Friday, after summarizing essentials from the first talk.

Host: Alvaro Pelayo

Thursday, October 27, 2016

4:00 PM

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