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Stratification of families of representations of the Heisenberg Lie algebra

We discuss a parametrization of a family of irreducible representations of the Heisenberg Lie algebra by Poincare-Birkhoff-Witt isomorphisms, or equivalently, complex Lagrangian splittings. Complex conjugation stratifies this family, and in two dimensions, this stratification assembles well known families of representations of the canonical commutation relations. We discuss various properties of the stratification on the complex Lagrangian Grassmannian induced by complex conjugation–incidence relations, homotopy type of each stratum, and discrete symmetries between preferred basepoints. We speculate the potential role of the family as a classifying space for quantizations.