

STRATIFIED KÄHLER STRUCTURES ON ADJOINT QUOTIENTS

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ABSTRACT

The complexification of a compact Lie group, endowed with a biinvariant Riemann metric, inherits a Kähler structure having twice the kinetic energy of the metric as its potential, and Kähler reduction with reference to the adjoint action yields a stratified Kähler structure on the adjoint quotient. The resulting singular Poisson-Kähler geometry of the adjoint quotient and the corresponding singular Kähler quantization on the reduced level exhibits nice features which will be explained in the talk, including the quantization of the geodesic flow on the reduced level. The ultimate goal is to extend this procedure to certain models for lattice gauge theory, with applications to molecular mechanics and moduli spaces.