Online Miniworkshop on Hamiltonian Systems and Group Actions
University of Antwerp, Belgium
June 30, 2021

Coadjoint orbits of the Hamiltonian group modeled on nonlinear flag manifolds

Cornelia Vizman

(West University of Timisoara)

Let M be a symplectic manifold and Ham(M) its Hamiltonian group. We extend older results about coadjoint orbits of Ham(M) modeled on nonlinear Grassmannians.
A nonlinear flag is a finite sequence of nested submanifolds

$$N_1 \subseteq N_2 \subseteq \ldots \subseteq N_r \subseteq M.$$

Certain coadjoint orbits of Ham(M) can be modeled with symplectic nonlinear flags: nested sets of symplectic submanifolds of M. Other coadjoint orbits of Ham(M) can be modeled using weighted isotropic nonlinear flags of M: nested sets of isotropic submanifolds of M, each submanifold endowed with a volume density.