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A Poisson-Lie group is a Lie group endowed with a Poisson structure such that the multiplication is a Poisson map. Hamiltonian systems on Poisson-Lie groups appear in the differential equation approach to the singular value decomposition (SVD) of a bidiagonal matrix. On the other hand, an approach to the integrability of a dynamical system on a manifold of dimension n , following Euler and Jacobi, is to look for $n-2$ functionally independent first integrals and an invariant volume form. Under these conditions, the system can be integrated by quadratures (by means of a finite number of algebraic operations and quadratures of some functions). In this talk, we discuss the relation between the existence of invariant volume forms for Hamiltonian systems on Poisson-Lie groups and the unimodularity of the Poisson-Lie structure.

Referencias

- [1] Journal of Physics A: Mathematical and Theoretical, Vol. 56, Núm. 1