ABSTRACT

The Poisson structure is a widely investigated concept that has both physical and mathematical relevance. The concept originates from Poisson’s research on analytic mechanics, which now provides a very general and solid framework for describing Hamiltonian dynamics.

Thus, the concept of a Poisson structure has subsequently found numerous applications beyond the original focus that was on classical mechanics and differential geometry. Poisson structures now appear in a large variety of contexts starting from string theory, topological and conformal field theory and integrable systems; extending to deformation quantization and non-commutative geometry; and all the way to algebraic geometry, representation theory and abstract algebra.