

Tangent Lifts of bi-Hamiltonian Structures

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ABSTRACT

We construct several Poisson structures on the tangent bundle TM to a Poisson manifold M using the Lie algebroid structure on the cotangent bundle T^*M . We also show that bi-Hamiltonian structure from M can be transferred to its tangent bundle TM . Moreover, we present how to find Casimir functions for those Poisson structures and we discuss some particular examples.

References

- [1] A. Dobrogowska, G. Jakimowicz, Tangent lifts of bi-Hamiltonian structures, J. Math. Phys. 58 (2017), no. 8, 1-15.