NONHOLONOMIC SYSTEMS AND THE HAMILTONIZATION PROBLEM.

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Abstract

In this talk we will discuss geometric features of nonholonomic systems and their behaviour after a reduction by a group of symmetries. We will see how Poisson geometry may help in understanding how far these systems are from being hamiltonian. In particular, we will show how the Jacobi identity is modified after a reduction by symmetries and we will present some concrete examples where Poisson and twisted Poisson brackets appear in the description of the dynamics. Moreover, in these cases, it is be possible to obtain a complete description of the (almost) symplectic leaves associated to these brackets.

References

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