

Equivalent Lagrangians in Contact Mechanics

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Abstract

Two Lagrangians are “equivalent” if they lead to the same dynamics. To study this problem in contact mechanics one needs to consider transformations of the z variable, which represents the action. This leads naturally to an extended version of contact Lagrangian systems (and, in particular, symplectic Lagrangian systems).

In this talk we will present this new framework and how to describe equivalent Lagrangians in contact geometry. We will apply it to some relevant examples in mechanics and electromagnetism.

References

- [1] M. de León, M. Lainz: *Singular Lagrangians and precontact Hamiltonian Systems*. Int. J. Geom. Meth. Mod. Phys. **16**, No. 10, (2019)
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