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Tom Mestdag* (tom.mestdag@ugent.be), Dept of Mathematical Physics and Astronomy, Ghent University, Krijgslaan 281, S9, 9000 Ghent, Belgium. *Hamiltonization aspects of nonholonomic systems.*

We introduce a method which allows one to recover the equations of motion of a class of nonholonomic systems by finding instead an unconstrained Hamiltonian system on the full phase space, and to restrict the resulting canonical equations to an appropriate submanifold of phase space. We focus first on the Lagrangian picture of the method and deduce the corresponding Hamiltonian from the Legendre transformation. We illustrate the method with several examples. (Received August 18, 2008)