

# Nonholonomic Maps

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Nonholonomic maps are phase space transformations induced by the phase flow of a mechanical system subject to velocity constraints. In general, these maps are not symplectic and cannot be described by generating functions. We will present a representation of such maps based on a suitable discrete variational principle and discuss its utility in constructing nonholonomic integrators. This is joint work with Donghua Shi and Shan Gao.