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Sommario	<p>The present work provides a geometric approach to the calculus of variations in the presence of non-holonomic constraints. As far as the kinematical foundations are concerned, a fully covariant scheme is developed through the introduction of the concept of infinitesimal control. The usual classification of the evolutions into normal and abnormal ones is also discussed, showing the existence of a universal algorithm assigning to every admissible curve a corresponding abnormality index, defined in terms of a suitable linear map. A gauge-invariant formulation of the variational problem, based on the introduction of the bundle of affine scalars over the configuration manifold, is then presented. The analysis includes a revisit of Pontryagin Maximum Principle and of the Erdmann-Weierstrass corner conditions, a local interpretation of Pontryagin's equations as dynamical equations for a free (singular) Hamiltonian system and a generalization of the classical criteria of Legendre and Bliss for the characterization of the minima of the action functional to the case of piecewise-differentiable extremals with asynchronous variation of the corners.</p>
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