

On the Hamilton-Jacobi Treatment of Constrained Systems

Sami . I. Muslih¹ and Hosam A. El-Zalan²

¹ Department of Physics, Al-Azhar University, Gaza, Palestine

² Department of Mathematics, Al-Aqsa University, Gaza, Palestine
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Abstract: Systems with singular-higher order Lagrangians are investigated by two methods: Dirac method and Hamilton-Jacobi method. An example is studied and it is shown that the Hamilton-Jacobi method gives the correct canonical generalized equations of motion, contrary to Dirac method, where Dirac conjecture is invalid.

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Key words: constrained Hamiltonian system, Hamilton-Jacobi approach, Dirac's approach

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