

M A T H E M A T I C A L P H Y S I C S S E M I N A R

Rutgers University
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**Hamiltonian Formulation of Singular Theories Based on the
Generalized Legendre Transform, Duality
and the Clairaut Equation**

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Abstract

We show that any singular Lagrangian theory:

1. Can be formulated without constraints by introducing the Clairaut-type version of the Hamiltonian formalism;
2. Leads to a special kind of the nonabelian gauge theory;
3. Coincides with the many-time classical dynamics.