An Improved Gauge Unfixing Formalism and the Abelian Pure Chern Simons Theory

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We propose a new scheme of embedding constrained systems based on the Gauge Unfixing formalism. Our aim is to modify directly t he original phase space variables of a system in order to be gauge invariant quantities. We apply our procedure in a nontrivial constrained mo del that is the Abelian Pure Chern Simons Theory where new results are obtained. Among them we can cite the development of a systemati c procedure in order to separate the first and the second class constraints, and the obtainment of the same initial Abelian Pure Chern

Simons Lagrangian as the gauge invariant Lagrangian. This last result shows that the gauge symmetry of the action is certainly preserve d.

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