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Formulación de Hamilton-Jacobi para teorías gauge topológicas

In this paper there is the study of the abelian gauge theories of Chern-Simons and Maxwell-Chern Simons. The Hamilton-Jacobi method was used for the analysis.
In this theory, the local gauge symmetry of the theory it is presented as the existence of constraints that restrict the phase space, these constraints are interpreted as partial differential equations that must comply with the integrability conditions. With these conditions there is the rise of a new set of partial differential equations and along with the initial conditions completes the set of Hamilton-Jacobi's partial differential equations (HJPDE's). Solving the HJPDE's involves determining their characteristic equations which establishes the degrees of freedom of the theory. From the fundamental fields, the field equations consistent with other formulations are deduced.

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