A Quantum ground operator in field theory

Francisco Bulnes
IINAMEI, Research Department in Mathematics and Engineering, TESCHA, Chalco, México
E-mail: francisco.bulnes@tesch.edu.mx

The ground operator is the operator that underlies every action of a field and that preserves the energy state of a system, maintaining the law of conservation of energy of the dynamical system given in the Lagrangian, and giving it a direction in space-time. Said operator will be a fundamental part in the system transformations in field theory and to define the field intentionality as the integral

$$\jmath_{\Omega_x}(x(s)) = \int_{\Omega_x} \left\{ \int_{\mathcal{M}} L\left(\theta\left(\pi^{-1}\left(\sigma\left(\rho^{-1}(x)\right)\right)\right)\right) \right\}$$

An immediate application is in nanotechnology.

Proposition 1. *The following diagram is commutative:*

$$\begin{array}{ccccc} T\mathbb{M} & \overset{O_c}{\to} & T\mathbb{M}^* & \overset{O_c(\upsilon)}{\longrightarrow} & \Omega^2(\mathbb{M}) \\ \Im\downarrow & \searrow & \downarrow \pi & \searrow\cong & \downarrow O_c(\upsilon)w, \\ \mathbb{R} & \overset{\Gamma}{\to} & T\mathbb{M} & \overset{L}{\to} & \Omega^1(\mathbb{M}) \end{array}$$

Theorem 2. ***(F. Bulnes)*** *The energy wrapping (spectrum) is characterized by the fields related by diffeomorphism* $\boldsymbol{C}_{-*}(\Omega(x)) \to \mathcal{W}(H)$*, whose space of paths going from* $\gamma(x)$ *to* $\phi(x)$*, foreseen in* [2]*. Then the ramification of field in this case is the connection to the operator* $O_c : TM \to T^*M$*.*

References

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