

Counting symmetries of a quantum system via a geometric approach

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In this talk we will prove that the time evolution of a mixed quantum system can be modeled by the time evolution of a geodesic curve in an appropriate Riemannian manifold with a metric tensor which depends on the Hamiltonian of the quantum system (see [1]). We will study moreover the relation between the physical and geometric symmetries in such a Riemannian manifold.

References

[1] V. Gimeno and J. Sotoca. Geometric approach to non-relativistic quantum dynamics of mixed states. *Journal of Mathematical Physics*. **54** (5), art. no. 052108.