



Quantum Physics

# Transition Probability (Fidelity) and Its Relatives

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Transition Probability (fidelity) for pairs of density operators can be defined as "functor" in the hierarchy of "all" quantum systems and also within any quantum system. The introduction of "amplitudes" for density operators allows for a more intuitive treatment of these quantities, also pointing to a natural parallel transport. The latter is governed by a remarkable gauge theory with strong relations to the Riemann-Bures metric.

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