

CLASSICAL LIMIT FROM A LOGICAL PERSPECTIVE

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If a quantum system undergoes a physical process such that its behavior becomes classic, then the logical structure of its properties should undergo a transition from a quantum logic to a classical logic. In order to give an adequate description of the logic structure transition, we propose to study the classical limit in terms of the Heisenberg picture, which allows to study the time evolution of the lattice of properties and how it becomes distributive [1]. For describing the quantum-to-classical transition of the logical structure of the system we need to consider non-unitary time evolutions [2].

[1] S. Fortin and L. Vanni. *Foundation of Physics* **44**, 1258-1268 (2014).

[2] S. Fortin, F. Holik and L. Vanni. Non-unitary Evolution of Quantum Logics. In: Bagarello F., Passante R., Trapani C. (eds) *Non-Hermitian Hamiltonians in Quantum Physics*. Springer Proceedings in Physics **184**. Springer, Cham (2016).