

2ND EUROPEAN PHYSICS CONGRESS

May 20-21, 2019 | Berlin, Germany

Quantum information functor and quantum gravity

Maziar Esfahanian

Polytechnic University of Turin, Italy

Quantum Information Theory is very richer than Classical one. Nonetheless, it sounds that there is no precise description for it and people usually refer to some special cases which show the difference between these two theories, For instance, No cloning theorem. Our aim here is to introduce a notation of Quantum Information Theory by means of category theoretic tools and then show it can be more “natural” than classical Information Theory in some sense. This notation also is useful to show that Loop

Quantum Gravity and String Theory are two shapes of a theory of Quantum Gravity which are describable as two different points of view of concept of space-time and space in a special mathematical structure. This mathematical structure is Topos. In addition, we claim that with this point of view Information is more fundamental rather than concept of Space and space-time in physics. We got inspired from the works of John Baez on mathematical physics to introduce this theory.

Biography

Maziar Esfahanian currently works at the “Giuseppe Luigi Lagrange”, Politecnico di Torino. Maziar does research in Quantum Information Theory and Bioinformatics by means of different Mathematical instrumentalists tools.

maziar.esfahanian@polito.it