15th annual conference on Relativistic Quantum Information (North)



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Modular Theory, Quantisation and Quantum Space-time

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A link between quantisation and (non-commutative) geometry is uncovered via Tomita-Takesaki modular theory for complexified ortho-symplectic spaces. We suggest (following arXiv:1007.4094v1) that, in a covariant quantum theory, non-commutative space-time can be a-posteriori recovered from relativistic states over algebras of partial observables. Speculative implications for cosmology will be mentioned.

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