

Quantum reference frames and local algebras

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In this talk I will report on old and recent results concerning the role of quantum reference frames (QRF) in algebraic quantum field theory (AQFT). Introducing a QRF in the presence of symmetries forces one to consider joint observables of the system (described by a net of local algebras) and the QRF. Such observables can be thought of as "semi-local" rather than local and they may no longer be of type III.