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ON A GENERAL CONCEPT OF SUFFICIENCY IN VON NEUMANN ALGEBRAS

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Abstract: A general question about the sufficiency of a subalgebra of some bigger algebra in the general operator algebra framework, under the assumption that the subalgebra in question is complete with respect to a family of states, is considered. Two particular cases are dealt with: sufficiency for Bayesian discrimination and sufficiency for unbiased estimation with minimal variance. It turns out that in both cases sufficiency is equivalent to the existence of a map from the bigger algebra into the smaller one having some specific properties.

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