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An obstruction to quantizing compact symplectic manifolds.
(English. English summary)

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The authors prove a no-go theorem on the existence of quantizations for certain subalgebras of Poisson algebras of compact symplectic manifolds. The subalgebras considered are those generated by a subspace of functions such that the corresponding vector fields are complete, generate the tangent space at each point, and the subspace is a minimal subspace with these properties. This subspace is called a set of basic observables. Their result is a generalization of a theorem of V. L. Ginzburg and R. Montgomery [“Geometric quantization and no go theorems”, Preprint, <http://arXiv.org/abs/dg-ga/9703010>].

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