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Manuel L. Reyes* (manuel.l.reyes@gmail.com), Department of Mathematics, Bowdoin College, 8600 College Station, Brunswick, ME 04011-8486. *Obstructing extensions of the functor Spec to noncommutative rings.*

We will present the following obstruction result for functors extending the Zariski spectrum to noncommutative rings: every contravariant functor from the category of rings to the category of sets whose restriction to the full subcategory of commutative rings is isomorphic to Spec must assign the empty set to $\mathbb{M}_n(\mathbb{C})$ for $n \geq 3$. The proof relies on the Kochen-Specker “no-hidden-variables” theorem of quantum mechanics. We will also mention a recent generalization of the result due to van den Berg and Heunen. (Received July 18, 2011)