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Zariski topology in quantized coordinate rings

The topological structures of the prime and primitive spectra of a generic quantized coordinate ring A are known “piecewise”. Assuming the base field is algebraically closed, there is an algebraic torus H acting on A in such a way that there are only finitely many H -orbits in $\text{prim } A$, each of which is homeomorphic to an affine variety (actually, another torus); similarly, $\text{spec } A$ is a finite disjoint union of locally closed subsets homeomorphic to the prime spectra of algebraic varieties. What is missing is any description of the topological relationships among the above-mentioned pieces of $\text{spec } A$ and $\text{prim } A$. We will discuss a framework for such a description, present it in detail for quantum GL_2 , and raise the question of how it might relate to classical algebraic geometric structures.