

Quantum moduli algebras at roots of unity

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We prove that the graph algebra and the quantum moduli algebra associated to a punctured sphere and complex semisimple Lie algebra \mathfrak{g} are Noetherian rings and finitely generated rings over

$mc(q)$. Moreover, we show that these two properties still hold on

$mc[q, q^{-1}]$ for the integral version of the graph algebra.

We also study the specializations

$Ll_{0,n}^e$ of the graph algebra

at a root of unity

e of odd order, and show that

$Ll_{0,n}^e$ and

its invariant algebra under the quantum group $U_{e(\mathfrak{g})}$

have classical fraction algebras which are central simple algebras of PI degree that we compute.

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