REPRESENTATIONS OF THE ALGEBRA $U_q'(\mathrm{so}_n)$ RELATED TO QUANTUM GRAVITY

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The aim of this paper is to review our results on finite dimensional irreducible representations of the nonstandard q-deformation $U_q'(\mathrm{so}_n)$ of the universal enveloping algebra $U(\mathrm{so}(n))$ of the Lie algebra $\mathrm{so}(n)$ which does not coincide with the Drinfeld–Jimbo quantum algebra $U_q(\mathrm{so}_n)$. This algebra is related to algebras of observables in quantum gravity and to algebraic geometry. Irreducible finite dimensional representations of the algebra $U_q'(\mathrm{so}_n)$ for q not a root of unity and for q a root of unity are given.