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Chelsea Walton* (chelsea.notlaw@gmail.com), University of Washington, Department of Mathematics, Box 354350, Seattle, WA 98195-4350. *Representation theory of three-dimensional Sklyanin algebras.*

We determine the dimensions of irreducible representations of the three-dimensional Sklyanin algebras. This contributes to the study of marginal deformations of the N=4 super Yang-Mills theory in four dimensions in supersymmetric string theory. Namely the classification of such representations is equivalent to determining the vacua of the aforementioned deformed theories. (Received July 18, 2011)