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Alexandru Chirvasitu* (chirva@uw.edu), Box 354350, Mathematics Department, University of Washington, Seattle, WA 98195, and **S. Paul Smith**. *Exotic elliptic algebras*.

In the course of his work on finding solutions to the Yang-Baxter equation arising from theta functions on elliptic curves, Sklyanin introduced his eponymous algebras. These are non-commutative deformations of polynomial rings in four variables, and are the most widely known examples of three-dimensional quantum projective spaces.

Many of the classical notions familiar from the study of projective algebraic varieties (lines and points in projective space, vector bundles on projective schemes, etc.) make sense in the non-commutative realm and provide important geometric information about the non-commutative graded rings underlying the non-commutative schemes being examined.

In this talk we discuss certain (further) deformations of Sklyanin algebras that in many ways exhibit generic behavior within the moduli space of quantum projective 3-spaces: they have the fewest number of points possible (namely 20), their schemes of lines are of minimal dimension (one) and generic degree (again 20), etc. All of this follows from a study of certain autoequivalences of various categories of representations for our twisted Sklyanin algebras. In turn, these autoequivalences arise as "quantum symmetries" via quantum group actions on the algebras.

(joint with S. Paul Smith) (Received August 16, 2016)