1001-16-229 **Darin R. Stephenson*** (`stephenson@hope.edu`), Department of Mathematics, P. O. Box 9000, Holland, MI 49422-9000, and **Michaela Vancliff** (`vancliff@amalie.uta.edu`), Department of Mathematics, P.O. Box 19408, Arlington, TX 76019-0408. *New examples of quantum $\mathbb{P}^3$ with finitely many points.*

The study and classification of quantum $\mathbb{P}^3$s (Artin-Schelter regular algebras of global dimension 4) has been somewhat limited both by the lack of examples on which to formulate and test conjectures and by the fact that no sufficiently generic examples are known. Therefore, one goal of our present work is to find new examples of quantum $\mathbb{P}^3$ with finitely many points. Our hope is that these examples will not only be interesting in their own right, but will also point the way toward finding generic quantum $\mathbb{P}^3$s. In this talk, we give details concerning several new quantum $\mathbb{P}^3$s with finitely many points. Included are the first known examples such that the associated regular algebra is not a finite module over its center, as well as infinitely many non-equivalent examples with only one point. (Received August 27, 2004)