

Classifying Orders in the Sklyanin Algebra

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This is joint work with Sue Sierra and Toby Stafford. One of the major open problems in noncommutative algebraic geometry is the classification of noncommutative surfaces, and this work resolves a significant case of the problem. Namely, let S be the 3-dimensional Sklyanin algebra, and let T be its 3-Veronese ring. Then we show how to describe all maximal orders which are contained in T , as certain kinds of blowups of T . The same techniques also apply to other noncommutative surfaces containing a smooth elliptic curve as a divisor.