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Daniel Rogalski* (drogalski@ucsd.edu) and **Jason Gaddis** (jdgaddis@gmail.com). *On the Local Structure at a Point on a Noncommutative Projective Variety*. Preliminary report.

Noncommutative Projective Varieties arise from graded rings through a generalization of the Proj construction from commutative algebraic geometry. Then a point in the variety comes from a graded module of dimension 1, and to study the local structure at a point one wants to understand the category of graded modules of dimension 1 over the algebra. This was done by Van Gastel and Van den Bergh for the case of surfaces. In this talk we describe some generalizations of these results to certain threefolds. In some nice cases the graded modules of dimension 1 can be described using the representation theory of infinite quivers. The result has applications to defining blowups at points on such varieties. (Received August 25, 2020)