

1106-16-1948

**Dan Wackwitz\*** ([daniel-wackwitz@uiowa.edu](mailto:daniel-wackwitz@uiowa.edu)). *Lifts of modules over Brauer tree algebras*. Preliminary report.

Let  $k$  be an algebraically closed field of arbitrary characteristic. Suppose  $A$  is a Brauer tree algebra over  $k$  and  $V$  is a finitely generated indecomposable  $A$ -module. I am interested in determining the versal deformation ring  $R(A, V)$  of  $V$ , which is characterized by the property that every lift of  $V$  over a complete local commutative Noetherian  $k$ -algebra  $R$  with residue field  $k$  is, up to isomorphism, determined by some (not necessarily unique) local ring homomorphism from  $R(A, V)$  to  $R$ . In this talk, I will discuss the special case when the Brauer tree of  $A$  is a star. In this case, every indecomposable  $A$ -module  $V$  is uniserial, and I have shown that  $R(A, V)$  depends solely on the length of the composition series of  $V$ . A main ingredient in this computation is the determination of the endomorphism ring, the stable endomorphism ring and the group of self-extensions of  $V$ . (Received September 15, 2014)