

Meeting: 998, Houston, Texas, SS 2A, Special Session on Representations of Algebras

998-16-416 **José Antonio de la Peña*** (jap@math.unam.mx), Circuito Exterior, Ciudad Universitaria, 04510 México, D.F., Mexico. *Periodic Coxeter matrices.*

Let $A = kQ/I$ be a finite dimensional triangular k -algebra. Consider the *Cartan matrix* C_A and the *Coxeter matrix* $\varphi_A = -C_A^{-t}C_A$. Let $\chi_\varphi(T) = \det(T\text{id} - \varphi_A)$ be the *Coxeter polynomial* of A . We study conditions on $\text{Spec } \varphi_A$ in order that φ_A is a periodic matrix. We show that in case φ_A is periodic then the *Euler quadratic form* $q_A(x) = xC_A^{-t}x^t$ is non-negative and $q_A > 0$ if and only if $1 \notin \text{Spec } \varphi_A$. (Received March 02, 2004)