1027-16-239 **Jose Antonio De la Pena*** (`jap@matem.unam.mx`), UNAM, Instituto de Matematicas, Ciudad Universitaria, 04510 DF Mexico, Mexico. *Coxeter transformations: from Lie algebras to singularity theory.*

Coxeter transformations play an important role in the theory of Lie algebras. Namely, the Weyl group is finite (resp. affine, contains a free subgroup) if the Coxeter elements are periodic (resp. have spectral radius 1, ¿ 1). For a hereditary algebra $A = kD$ associated to a quiver D without oriented cycles, the Coxeter transformation is induced from the Auslander-Reiten equivalence of the derived category $D^b(\operatorname{mod} A)$ to the Grothendieck group of A. The spectral properties of this transformation are essential to understand the representation theory of A. For canonical algebras A over the complex numbers, spectral properties of the Coxeter transformations are related to the classification of Fuchsian groups and their asociated singularities. (Received February 27, 2007)