1116-VA-949　　　　**Timothy D. Ferdinands*** (`ferdinands_t@mercer.edu`), Department of Mathematics, Mercer University, 1400 Coleman Ave., Macon, GA 31207. *Groupoids with root systems in real vector spaces.*

The study of root systems attached to groupoids that resemble Coxeter groups has seen many recent developments. Brink and Howlett introduce one such notion such groupoids in their study of normalizers of parabolic subgroupoids of Coxeter groups in 1999. We discuss these groupoids and their associated root systems, focusing in particular on instances of these where the root system may be realized in a real vector space.

The strongest results we obtain hold when the Coxeter group is finite. In this case we give an correspondence between a realization of the universal covering of the Brink-Howlett groupoid in a real vector space and a simplicial hyperplane arrangement in that vector space. (Received September 15, 2015)