Keith Jones and Gregory A. Kelsey* (gkelsey@bellarmine.edu). The Star Geometry of Diestel-Leader Groups.

Given a bordified space, Karlsson defines an incidence geometry of stars at infinity. These stars and their incidence are closely related to well-understood objects when the space is hyperbolic, CAT(0), or a bounded convex domain with the Hilbert metric. It is not clear what star geometries are possible when the space is a finitely generated group that is not negatively-curved. We compute the star geometry of the Diestel-Leader graph that is the Cayley graph of the lamplighter group bordified by its horofunction boundary. We also discuss the generalization of this result to other Diestel-Leader groups. (Received August 07, 2017)