Douglas A. Torrance* (dtorrance@monmouthcollege.edu) and Zach Teitler (zteitler@boisestate.edu). Properties of complete bipartite codimension two subspace arrangements.

Consider an arrangement of codimension two linear subspaces in projective space. Any two distinct subspaces in this arrangement will intersect in codimension three or four. We may therefore define the incidence graph of such an arrangement. The vertices of the incidence graph are the subspaces in the arrangement, and two vertices are adjacent if and only if the corresponding subspaces intersect in codimension three.

We investigate the properties of arrangements whose incidence graphs are complete bipartite graphs. In particular, we can determine the Castelnuovo-Mumford regularity and arithmetic Cohen-Macaulayness of the arrangement from the cardinality of the partite sets. (Received September 12, 2013)