1067-Z1-1623   **Shadiyah Amani Mangru*** (`smangru@gmu.edu`), Department of Mathematical Sciences, George Mason University, Fairfax, VA 22030. *Investigations in Linear Algebra and Combinatorics related to Biclique Decompositions of Graphs.*

We formulate five new propositions related to the Graham-Pollak Theorem. The first four illuminate properties of both biclique edge covers of the edge set of K_n, and nullspace basis vectors of a matrix representation of such covers. These four propositions motivate the recursively-defined sparse null space basis we present, as proposition five, for a particular subset of matrices of interest in Algebraic Graph Theory. (Received September 22, 2010)