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Luz M. DeAlba* (luz.dealba@drake.edu), Drake University, 2507 University Avenue, Des Moines, IA 50311. *Minimum skew rank of powers of paths*. Preliminary report.

The minimum skew rank of a simple graph G is the smallest possible rank among all real skew symmetric matrices, whose (i, j) -entry (for $i \neq j$) is nonzero whenever ij is an edge in G and is zero otherwise. The graph G to the power r is the graph G^r , where ij is an edge of G^r if and only if there is a walk in G from vertex i to vertex j of length at most r . The graph G to the strict power r is the graph $G^{(r)}$, where ij is an edge in $G^{(r)}$ if and only if there is a walk in G from vertex i to vertex j of length exactly r . In this talk we solve the problem of minimum skew rank of powers and strict powers of paths. (Received September 04, 2010)