1023-D1-561   **Jason J Molitierno*** (`molitiernoj@sacredheart.edu`), Sacred Heart University, Department of Mathematics, 5151 Park Avenue, Fairfield, CT 06825-1000. *The Spectral Radius of Submatrices of Laplacian Matrices for Graphs.* Preliminary report.

Graphs can be represented in terms of a Laplacian matrix. The Laplacian matrix for a graph on n vertices is an $n \times n$ matrix in which the ith diagonal entry is the degree of vertex i, while the off-diagonal entries (i, j) are -1 if i and j are adjacent and 0 otherwise. In this talk, we investigate the submatrices of Laplacian matrices created by deleting a row and column corresponding to a specific vertex. We observe how the spectral radius of such a submatrix varies depending on the corresponding vertex we used in the row and column deletion. We obtain some surprising results that relate to the inverses of these submatrices. (Received September 18, 2006)