1135-05-3052   **Louis Deaett*** (`louis.deaett@quinnipiac.edu`). *Matroids and the minimum rank of matrix patterns.* Preliminary report.

The *zero-nonzero pattern* of a matrix specifies precisely which of its entries are nonzero. One problem of interest is to determine the smallest possible rank of a matrix given only this combinatorial description. Here we show how to generalize this problem to the setting of matroids, and observe that some known lower bounds still apply in this setting. Moreover, we exploit the matroid-theoretic context to give a new perspective on some known results, improve on some others a bit, and establish a few new results as well. Ultimately, however, the potential of this approach seems largely untapped; we outline directions in which the connections with matroid theory could be strengthened so as to bring more powerful tools to bear on the original matrix-theoretic problem. (Received September 26, 2017)