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Ke Wang* (wangk@umn.edu), 306 Lind Hall, 207 Church Street SE, Minneapolis, MN 55455, and
Van Vu. *Random weighted projections, random quadratic forms and random eigenvectors.*

We start with a simple, yet useful, concentration inequality concerning random weighted projections in high dimensional spaces. The inequality is then used to prove a general concentration inequality for random quadratic forms. In another application, we show the optimal infinity norm $O(\sqrt{\log n/n})$ for most unit eigenvectors of a large class of random matrices of size n , including the adjacency matrix of random graphs. This is joint work with Van Vu. (Received September 16, 2014)