1100-20-108   **Randall R. Holmes** and **Huajun Huang*** (`huanghu@auburn.edu`), Department of Mathematics and Statistics, Auburn University, Auburn, AL 36849, and **Tin-Yau Tam**. *Asymptotic Behavior of Iwasawa and Cholesky Iterations.*

The QR iteration provides one of the most efficient methods for computing the eigenvalues of a matrix. Its counterpart in real semisimple Lie groups is the Iwasawa decomposition. We extend, in the context of a connected real semisimple Lie group, some results on the QR iteration and the Cholesky iteration of a nonsingular matrix. A group theoretic understanding of the abstract mechanisms of the iterations is obtained. (Received February 03, 2014)