**Power Method**

The power method, described in Algorithm [4.1](http://www.netlib.org/utk/people/JackDongarra/etemplates/node95.html#sympower), can be used to solve the NHEP without any apparent change.

\begin{algorithm}{The Power Method for the
Computation of $\lambda_{\max}(A)$} ...
...\\
(4) \> \> \> Else $z := y /\Vert y\Vert _2$.
\end{tabbing}}
\end{algorithm}  
Under conditions similar to those in the Hermitian case, the power method for the non-Hermitian matrix $A$ converges to $\lambda_{\max}(A)$, the largest eigenvalue in magnitude. The convergence rate depends on the ratio $\vert \lambda_2 / \lambda_{\max}\vert$, where $\lambda_2$ is the second largest eigenvalue of $A$ in magnitude. For detailed discussions of the power method, see Wilkinson [[457](http://www.netlib.org/utk/people/JackDongarra/etemplates/node421.html#wilk65)], Golub and Van Loan [[198](http://www.netlib.org/utk/people/JackDongarra/etemplates/node421.html#golo96)], and Demmel [[114](http://www.netlib.org/utk/people/JackDongarra/etemplates/node421.html#demmelbook)].