1014-30-450   **George L. Csordas** and **Andrzej Piotrowski*** (`andrzejp@math.hawaii.edu`), Department of Mathematics, 2565 McCarthy Mall, Honolulu, HI 96822. *Hermite Multiplier Sequences.*

This paper investigates real sequences $\gamma_0, \gamma_1, \gamma_2, \ldots$ with the property that if the real polynomial $\sum_{k=0}^{n} a_k H_k(x)$ has only real zeros, then the polynomial $\sum_{k=0}^{n} \gamma_k a_k H_k(x)$ also has only real zeros, where $H_k(x)$ is the kth Hermite polynomial $H_k(x) := (-1)^k e^{x^2} D^k e^{-x^2}$. (Received September 16, 2005)