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**Andrzej Piotrowski\*** (apiotrowski@uas.alaska.edu). *Linear Operators and Zeros of Polynomials*. Preliminary report.

To each simple set of real polynomials  $\{q_k\}_{k=0}^{\infty}$  and each sequence of real numbers  $\{\gamma_k\}_{k=0}^{\infty}$ , we can define a linear operator on  $\mathbf{R}[x]$  by declaring  $T[q_n] = \gamma_n q_n$ . We seek to determine conditions under which such an operator preserves reality of zeros. (Received September 22, 2009)