1077-30-58 **Tamas Forgacs*** (tforgacs@csufresno.edu). *Multiplier sequences for simple sets of polynomials.* Preliminary report.

Let $Q = \{q_k(x)\}_{k=0}^{\infty}$ be a simple set of polynomials. We call a sequence of real numbers $\{\gamma_k\}_{k=0}^{\infty}$ a $Q$-multiplier sequence, if $\sum a_k \gamma_k q_k(x)$ has only real zeros whenever $\sum a_k q_k(x)$ has only real zeros. While multiplier sequences for the standard and Hermite bases have been completely characterized by Pólya-Schur (1914) and Piotrowski (2007) respectively, very little is known about multiplier sequences for other special, and more general bases. In this talk we exhibit that every multiplier sequence for a simple *orthogonal* set of polynomials must be a Hermite multiplier sequence, and describe how multiplier sequences for simple sets of polynomials relate to known sets of multiplier sequences. (Received July 13, 2011)