1023-30-1474   **Stephanie Edwards*** (`sedwards@udayton.edu`), University of Dayton, 300 College Park Dr., Dayton, OH 45469-2316. *A Hellerstein-Williamson type theorem for functions in U_{2p}^*.* Preliminary report.

A function f is in the class V_{2p} iff $f(z) = e^{-az^{2p+2}}g(z)$ where $a \geq 0$ and g is a constant multiple of a real entire function of genus $\leq 2p + 1$ with only real zeros. The class U_{2p} is defined as follows: $U_0 = V_0$, $U_{2p} = V_{2p} - V_{2p-2}$. Functions in the class U_{2p}^* are represented as $g(z) = c(z)f(z)$ where $f \in U_{2p}$ and c is a real polynomial with no real zeros. In the late 1970's S. Hellerstein and J. Williamson verified a 1914 conjecture of G. Pólya by showing that for $f \in U_{2p}$, if f' has only real zeros, then f'' has exactly $2p$ non-real zeros. We extend this result to functions in U_{2p}^*. (Received September 26, 2006)