1003-40-412   **Thomas R Hagedorn*** (`hagedorn@tcnj.edu`), Dept. of Mathematics, The College of New Jersey, P.O. Box 7718, Ewing, NJ 08628. *Zeros of a Fourth Degree Linear Recurrence Relation.* Preliminary report.

Let T_n be a linear recurrence relation defined by $T_{n+m} = a_0 T_{n+m} + a_1 T_{n+m-1} + \ldots + a_m T_n$. Let $f(x) = a_0 x^m + a_1 x^{m-1} + \ldots + a_m$. When $m = 3$ and $f(x)$ is a real polynomial whose roots have distinct absolute values, several authors have proved that if $T_n = 0$ for four values of $n \geq 0$, then $T_n = 0$ for all n. The talk will discuss the generalization of this result to the case when $m = 4$. (Received September 14, 2004)