1077-39-1161   **M. R. S. Kulenovic*** (`mkulenovic@mail.uri.edu`), Lippitt Hall, Kingston, RI 02881, and **Ed Janowski**, Lippitt Hall, Kingston, RI. *Attractivity and Global Stability for Linearizable Difference Equations.*

Consider the difference equation

$$x_{n+1} = f(x_n, \ldots, x_{n-k}), \quad n = 0, 1, \ldots$$

where $k \in \{0, 1, \ldots\}$ and the initial conditions are real numbers. We use the linearization of this equation in the form

$$x_{n+l} = \sum_{i=1-l}^{k} g_i x_{n-i}, \quad n = 0, 1, \ldots$$

where $l \in \{1, 2, \ldots\}$ and the functions $g_i : R^{k+l} \to R$ to investigate the asymptotic behavior of the solutions of the considered equation. We illustrate our results with various examples of rational difference equations. Some of our results will lead to global dynamics of certain difference equations. (Received September 17, 2011)