1035-37-1442   **Candace M. Kent*** (`cmkent@vcu.edu`), 3510 Hanover Avenue, Richmond, VA 23221-2208, and
Hassan Sedaghat, **David M. Chan**, **Eun R. Chang**, **Mehdi Dehghan** and **Reza Mazrooei-Sebdani**. *Asymptotic Stability for Difference Equations with Decreasing Arguments.*

We consider general, higher-order difference equations of the form

$$x_n = f\left(x_{n-1}, \dots, x_{n-m}\right), \ n = 1, 2, \dots,$$

in which the function f is nondecreasing in each argument. We obtain sufficient conditions for the asymptotic stability of a unique fixed point relative to an invariant interval. We also discuss the following applications of our main results:

1. The rational equation $\ x_n = \left(\displaystyle\sum_{i=1}^{m} \frac{a_i}{x_{n-i}} \right)^p$ for $n = 1, 2, \dots$.

2. The rational equation $\ x_n = \dfrac{1}{\left[\sum_{i=1}^{m} a_i x_{n-i}^{p_i}\right]^p}$ for $n = 1, 2, \dots$.

3. A simple model for irregular heartbeat.

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