

---

**MICHAEL RADIN**, Rochester Institute of Technology

*Eventually periodic and unbounded solutions of a non-autonomous max-type difference equation*

We investigate the max-type difference equation in the form:

$$x[n + 1] = \max \{A[n]/x[n], B[n]/x[n - 1]\}$$

where  $A[n]$  and  $B[n]$  are periodic sequences of positive real numbers. We will study how the relationship and the rearrangement of the terms of the sequences affect the periodic solutions of the difference equation and the boundedness nature of the solutions as well. In addition, we will discuss the applications in decision making, logical gates and other related applications.