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Lan Nguyen* (lan.nguyen@wku.edu) and **Constantin Buse.** *Asymptotic Stability of Discrete Non-autonomous System via Discrete Evolution Semigroups.*

Consider the discrete evolution family $\mathcal{U} = \{U(n, m) : n \geq m \in Z^+\}$ of bounded, linear operators on a Banach space E . We study different types of stability of \mathcal{U} ((non)uniform strong stability, (non)uniform exponential stability, etc.) by studying the corresponding stability of the evolution semigroup $\mathcal{T} = \{T(n)\}_{n \in Z^+}$ defined by

$$(T(n)f)(k) := U(k, k - n)f(k - n)$$

in a suitable space $l(Z^+, E)$ of sequences from Z^+ , the set of non-negative integers, to E . We show that the stability conditions on semigroup \mathcal{T} in different spaces $l(Z^+, E)$ are not the same and we obtain each type of stability of \mathcal{U} by choosing the right sequence space. (Received August 08, 2013)