

1052-39-18

Fei Xue* (xue@hartford.edu), 200 Bloomfield Ave., West Hartford, CT 06117, and **Harry Gingold** (gingold@math.wvu.edu), Department of Mathematics, P.O. Box 6310, West Virginia University, Morgantown, WV 26506. *Asymptotic summation of linear difference system of equations.*

A new method for asymptotic summation of linear systems of difference equations is proposed and studied. It is based on the introduction of a certain summation equation that pinpoints sufficient conditions for asymptotic summation. These conditions serve as a framework from which new and old theorems follow. In particular the analog of the fundamental theorems of Levinson is shown to follow from it. This is a joint work by H. Gingold and F. Xue. (Received June 03, 2009)