Asymptotic behavior of nonlinear difference equations

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In this talk we investigate the growth/decay rate of solutions of a class of nonlinear Volterra difference equations. Our results can be applied for the case when the characteristic equation of an associated linear difference equation has complex dominant eigenvalue with higher than one multiplicity. Illustrative examples are given for describing the asymptotic behavior of solutions in a class of linear difference equations and in several discrete nonlinear population models.