Linear Algebra

MA 242   (Spring 2013)
Instructor: M. Chirilus-Bruckner

DIFFERENCE EQUATIONS

– asymptotics through eigenvalues and eigenvectors–

| Difference equations |

$$x_{k+1} = Ax_k, \quad k = 1, 2, 3, \ldots$$

Asymptotics of sequence x_k can be classified by the magnitude of the eigenvalues .

    - attractor

    - repeller

    - saddle

Complex eigenvalues indicate rotation