

$$\begin{aligned}
& x^{(k+1)} = \\
& Bx^{(k)} + \\
& \left\| B \right\| \beta < \\
& \left\| x^{(k)} - \right. \\
& x^{(k-1)} \left. \right\| < \\
& \epsilon(1 - \\
& \beta) / \beta \\
& \left\| x - \right. \\
& x^{(k)} \left. \right\| \epsilon \\
& \left\| x^{(k)} - \right. \\
& x^{(k-1)} \left. \right\| = \\
& \left\| Bx^{(k-1)} + \right. \\
& c - \\
& Bx^{(k-2)} - \\
& c \left. \right\| = \\
& \left\| Bx^{(k-1)} - \right. \\
& Bx^{(k-2)} \left. \right\| \\
& \left\| B \right\| \left\| x^{(k-1)} - \right. \\
& x^{(k-2)} \left. \right\| \left\| \beta \right\| \left\| x^{(k-1)} - \right. \\
& x^{(k-2)} \left. \right\|. \\
& \left\| x - \right. \\
& x^{(k)} \left. \right\| = \\
& \left\| \sum_{i=k+1}^{\infty} x^{(i)} - \right. \\
& x^{(i-1)} \left. \right\| \left\| \sum_{i=k+1}^{\infty} \left\| x^{(i)} - \right. \right. \\
& x^{(i-1)} \left. \right\| \\
& \sum_{i=1}^n \beta^i \left\| x^{(k+i)} - \right. \\
& x^{(k+i-1)} \left. \right\| \frac{\beta}{1-\beta}. \\
& \frac{\epsilon(1-\beta)}{\beta} = \\
& \epsilon. \\
& I + A + \frac{A^2}{2!} + \dots + \frac{A^n}{n!} + \dots
\end{aligned}$$

$$\begin{aligned}
& e^A \\
& \lambda_1, \lambda_2, \dots, \lambda_n \\
& e^{\lambda_1}, \dots, e^{\lambda_n} \\
& \left\| \cdot \right. \\
& \left\| A^n \right\| \left\| A \right\|^n \\
& \left\| \sum_{k=0}^n \frac{A^k}{k!} \right\| \left\| \sum_{k=0}^n \left\| A^k / k! \right\| \right\| \left\| \sum_{k=0}^n \left\| A \right\|^k / k! \right\| \rightarrow e^{\|A\|}.
\end{aligned}$$

$$\begin{aligned}
& \lambda_1 \\
& A_2 \\
& \lambda_1^2 \\
& A_1^2
\end{aligned}$$

$$A^2 x_1 = A(Ax_1) = A(\lambda_1 x_1) = \lambda(Ax_1) = \lambda_1^2 x_1.$$

$$\begin{aligned}
& \lambda_1^n \\
& A_1^n \\
& x_1 \\
& e^A(x_1) = \left(\sum_{k=0}^{\infty} \frac{A^k}{k!} \right) (x_1) = \left(\sum_{k=0}^{\infty} \frac{\lambda_1^k}{k!} \right) (v) = e^{\lambda_1}(v).
\end{aligned}$$

$$\begin{aligned}
& \lambda_j \\
& e^{\lambda_j} \\
& x_{n+1} = \frac{x_n(x_n^2 + 3a)}{3x_n^2 + a}, n0
\end{aligned}$$

$$\begin{aligned}
& \sqrt{a} \\
& \lim_{n \rightarrow \infty} \frac{\sqrt{a} - x_{n+1}}{(\sqrt{a} - x_n)^3}
\end{aligned}$$