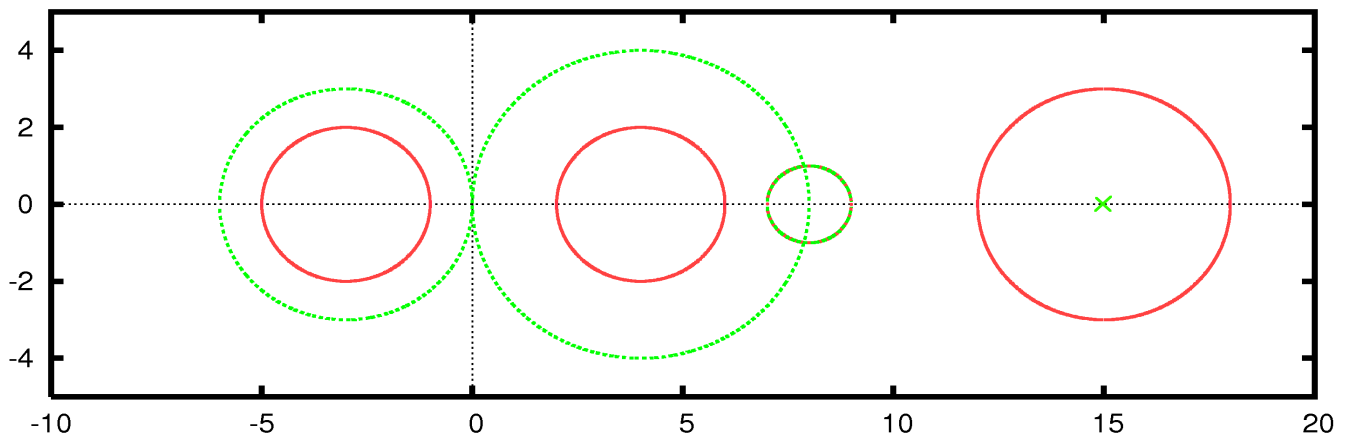


$$\mathbf{A} = \begin{pmatrix} 4 & 1 & 0 & 1 \\ 1 & 8 & 0 & 0 \\ 1 & 0 & 15 & 2 \\ 2 & 0 & 0 & -3 \end{pmatrix}$$

$$P_4(\lambda) = \lambda^4 - 24\lambda^3 + 128\lambda^2 + 214\lambda - 1635$$

$$\Rightarrow |\lambda| < (|-24| + |128| + |214| + |-1635|)/1 = 2001$$

Gerschgorin-Kreise (Zeilen, Spalten)



$$\lambda_1 = -3.2781828$$

$$\lambda_2 = 4.0323605$$

$$\lambda_3 = 8.2458223$$

$$\lambda_4 = 15$$