{{((3713)/(60)),-((208)/(15)),((203)/(60))},{   -((208)/(15)),((1187)/(

Entrada:

$$\begin{pmatrix} \frac{3713}{60} & -\frac{208}{15} & \frac{203}{60} \\ -\frac{208}{15} & \frac{1187}{15} & -\frac{208}{15} \\ \frac{203}{60} & -\frac{208}{15} & \frac{3713}{60} \end{pmatrix}$$

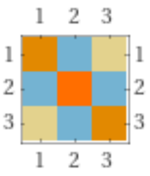
Resultado:

$$\begin{pmatrix} \frac{3713}{60} & -\frac{208}{15} & \frac{203}{60} \\ -\frac{208}{15} & \frac{1187}{15} & -\frac{208}{15} \\ \frac{203}{60} & -\frac{208}{15} & \frac{3713}{60} \end{pmatrix}$$

Dimensiones:

3 (filas) × 3 (columnas)

Gráfico de matriz:



Propiedad:

simétrico

Traza:

$$\frac{2029}{10}$$

Determinante:

$$\frac{2796417}{10}$$

Inversa:

$$\frac{1}{1864278}\begin{pmatrix} 31365 & 5408 & -503 \\ 5408 & 25454 & 5408 \\ -503 & 5408 & 31365 \end{pmatrix}$$

Polinomio característico:

$$-\lambda^3 + \frac{2029\,\lambda^2}{10} - \frac{66138\,\lambda}{5} + \frac{2796417}{10}$$

Valores propios:

$\lambda_1 = 93$

$\lambda_2 = \frac{117}{2}$

$\lambda_3 = \frac{257}{5}$

Vectores propios:

$v_1 = (1, -2, 1)$

$v_2 = (-1, 0, 1)$

$v_3 = (1, 1, 1)$

Diagonalización:

$M = S.J.S^{-1}$

donde

$$M = \begin{pmatrix} \frac{3713}{60} & -\frac{208}{15} & \frac{203}{60} \\ -\frac{208}{15} & \frac{1187}{15} & -\frac{208}{15} \\ \frac{203}{60} & -\frac{208}{15} & \frac{3713}{60} \end{pmatrix}$$

$$S = \begin{pmatrix} 1 & -1 & 1 \\ 1 & 0 & -2 \\ 1 & 1 & 1 \end{pmatrix}$$

$$J = \begin{pmatrix} \frac{257}{5} & 0 & 0 \\ 0 & \frac{117}{2} & 0 \\ 0 & 0 & 93 \end{pmatrix}$$

$$S^{-1} = \begin{pmatrix} \frac{1}{3} & \frac{1}{3} & \frac{1}{3} \\ -\frac{1}{2} & 0 & \frac{1}{2} \\ \frac{1}{6} & -\frac{1}{3} & \frac{1}{6} \end{pmatrix}$$

Número de condición:

2,13679