$$G(t, x, px) := \begin{bmatrix} px_1 - a \cdot (x_2 - x_1) \\ px_2 - (x_1 \cdot (b - x_3) - x_2) \\ px_3 - (x_1 \cdot x_2 - c \cdot x_3) \end{bmatrix} \qquad J1(t, x, px) := \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

Min step

$hmn := 10^{-4}$

Max step

$hmx := 5$

Tolerance

$eps := 0.1$

Method: (1,2,3)

$nm := 2$

$x_0 := \begin{bmatrix} 0.1 \\ 0.1 \\ 0.5 \end{bmatrix}$ $t_0 := 0$ $t_{max} := 50$ $n := 1600$

$a := 10$ $b := 28$ $c := \frac{8}{3}$

$t0 := \text{time}(1)$

$L := \text{manzhuk}(x_0, t_0, t_{max}, n, G, J1)$

Error code

$ier = 0$

$\text{time}(1) - t0 = 6.345$ c

$XY := L[1..n]\begin{bmatrix} 2 \\ 3 \end{bmatrix}$ $XZ := L[1..n]\begin{bmatrix} 2 \\ 4 \end{bmatrix}$ $YZ := L[1..n]\begin{bmatrix} 3 \\ 4 \end{bmatrix}$