

$$F(x, y) := \begin{bmatrix} 4 \cdot x^3 + 4 \cdot x \cdot y - 42 \cdot x + 2 \cdot y^2 - 14 \\ 2 \cdot x^2 + 4 \cdot x \cdot y + 4 \cdot y^3 - 26 \cdot y - 22 \end{bmatrix} \quad \text{Jac}(x, y) := \text{Jacob}\left(F(x, y), \begin{bmatrix} x \\ y \end{bmatrix}\right)$$

$$f(v) := F(v_1, v_2) \quad j(v) := \text{Jac}(v_1, v_2)$$

$$x0 := -6 \quad y0 := -2 \quad x0 := \text{stack}(x0, y0) \quad \text{StepMax} := 0 \quad \text{Eps} := 10^{-5}$$

$$\text{start} := \text{time}(0)$$

$$\text{res} := \text{al_nleqsolve}(x0, \text{StepMax}, \text{Eps}, f(v), j(v))$$

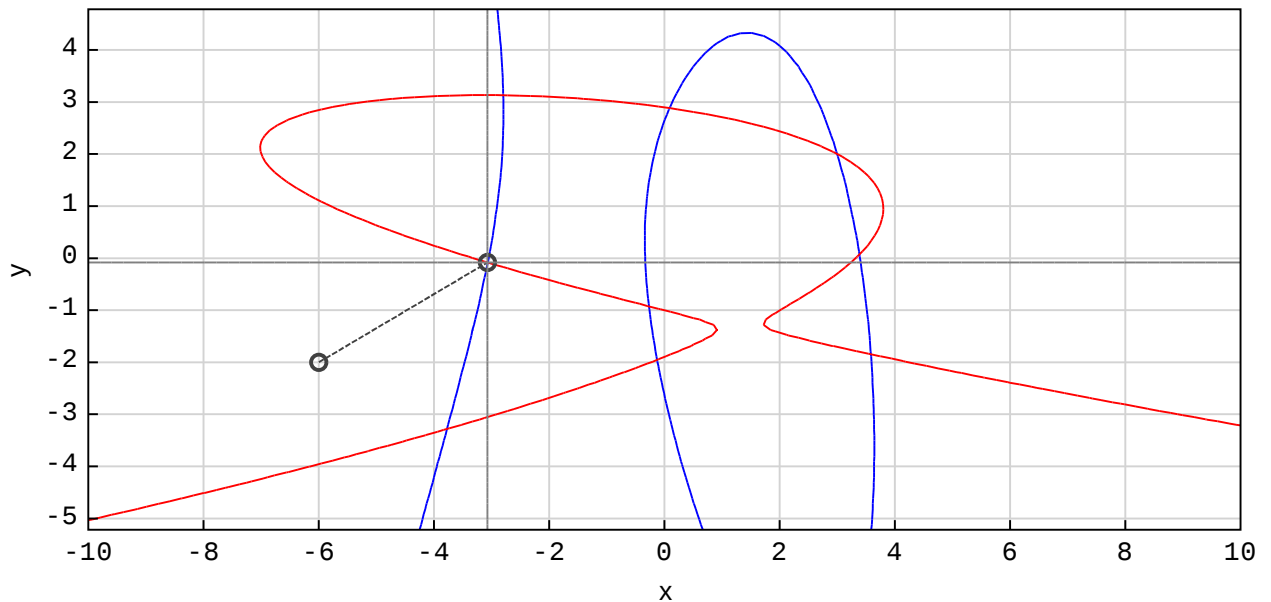
$$\text{time}(0) - \text{start} = 16 \text{ } \mu\text{s}$$

$$\text{res} = \begin{bmatrix} -3.073 \\ -0.0814 \end{bmatrix}$$

$$f1(x, y) := F(x, y)_1 \quad f2(x, y) := F(x, y)_2$$

$$f(\text{res}) = \begin{bmatrix} -7.5605 \cdot 10^{-8} \\ -7.5353 \cdot 10^{-8} \end{bmatrix}$$

$$mX(x, y) := x - \text{res}_1 \quad mY(x, y) := y - \text{res}_2$$



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{ f1
  f2
  augment(x0, res)T
  mX
  mY

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