

$$m:=1$$

$$l:=1 \qquad v_0:=2\cdot\sqrt{g\cdot l}$$

$$g:=9.80665$$

$$a:=l \qquad k:=0.5 \qquad \boxed{v_0}:=0$$

$$w_0:=$$

$$\varphi_0:=5\cdot\frac{\pi}{180}$$

$$y:=\begin{bmatrix} v_0 \\ \varphi_0 \end{bmatrix}$$

$$D1\left(t,y\right):=\begin{bmatrix} -w_0^2\cdot\sin\left(y_1\right)-k\cdot y_0 \\ y_0 \end{bmatrix}$$

$$Z1:=\text{rkfixed}(\,$$

$$D2\left(t,y\right):=\begin{bmatrix} -w_0^2\cdot y_1-k\cdot y_0 \\ y_0 \end{bmatrix}$$

$$Z2:=\text{rkfixed}(\,$$

$$\boxed{\varphi_0}:=10\cdot\frac{\pi}{180}$$

$$\boxed{y}:=\begin{bmatrix} v_0 \\ \varphi_0 \end{bmatrix}$$

$$D3\left(t,y\right):=\begin{bmatrix} -w_0^2\cdot\sin\left(y_1\right)-k\cdot y_0 \\ y_0 \end{bmatrix}$$

$$Z3:=\text{rkfixe}$$

$$D4\left(t,y\right):=\begin{bmatrix} -w_0^2\cdot y_1-k\cdot y_0 \\ y_0 \end{bmatrix}$$

$$Z4:=\text{rkfixe}$$

$$\boxed{\varphi_0}:=20\cdot\frac{\pi}{180}$$

$$\boxed{y}:=\begin{bmatrix} v_0 \\ \varphi_0 \end{bmatrix}$$

$$D5\left(t,y\right):=\begin{bmatrix} -w_0^2\cdot\sin\left(y_1\right)-k\cdot y_0 \\ y_0 \end{bmatrix}$$

$$Z5:=\text{rkfixe}$$

$$D6\left(t,y\right):=\begin{bmatrix} -w_0^2\cdot y_1-k\cdot y_0 \\ y_0 \end{bmatrix}$$

$$Z6:=\text{rkfixe}$$

$$\boxed{\varphi_0}:=40\cdot\frac{\pi}{180}$$

$$\boxed{y}:=\begin{bmatrix} v_0 \\ \varphi_0 \end{bmatrix}$$

$$D7\left(t,y\right):=\begin{bmatrix} -w_0^2\cdot\sin\left(y_1\right)-k\cdot y_0 \\ y_0 \end{bmatrix}$$

$$Z7:=\text{rkf}$$

$$D8\left(t,y\right):=\begin{bmatrix} -w_0^2\cdot y_1-k\cdot y_0 \\ y_0 \end{bmatrix}$$

$$Z8:=\text{rkf}$$

$$\boxed{\varphi_0}:=80\cdot\frac{\pi}{180}$$

$$\text{rkf}(\,$$

$$\begin{bmatrix} -w_0^2\cdot\sin\left(y_1\right)-k\cdot y_0 \\ y_0 \end{bmatrix}$$

φ_0

180

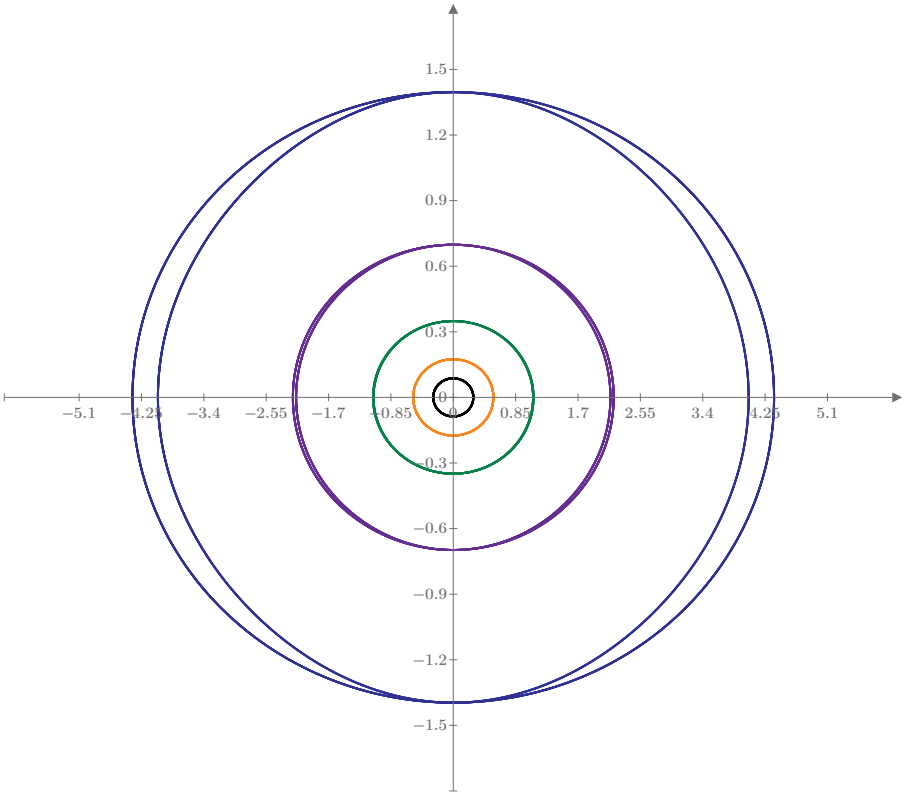
$y:=\begin{bmatrix} v_0 \\ \varphi_0 \end{bmatrix}$

$D9(t,y):=\begin{bmatrix} -w_0^2\cdot y_1-\sigma_0 \\ y_0 \end{bmatrix}$

$Z9:=\text{rk}$

$D10(t,y):=\begin{bmatrix} -w_0^2\cdot y_1-k\cdot y_0 \\ y_0 \end{bmatrix}$

$Z10:=\text{rk}$



$\frac{\langle Z1^{(1)}\rangle}{\langle Z2^{(1)}\rangle}$

$\frac{\langle Z2^{(1)}\rangle}{Z3^{(1)}}$

$Z4^{(1)}$

$\frac{\langle Z1^{(2)}\rangle}{\langle Z2^{(2)}\rangle}$

$Z5^{(1)}$

$Z6^{(1)}$

$Z3^{(2)}$

$Z7^{(1)}$

$Z4^{(2)}$

$Z8^{(1)}$

$Z5^{(2)}$

$Z9^{(1)}$

$Z6^{(2)}$

$Z10^{(1)}$

$Z7^{(2)}$

$Z8^{(2)}$

$Z9^{(2)}$

$Z10^{(2)}$