$L := 290\ m$ $d := 16\ m$ $B := 47.5\ m$ $C_b := 0.805$ $V := 15\ knot$

$\rho := 1.025\ \frac{tonne}{m^3}$ $\Delta := C_b \cdot L \cdot B \cdot d \cdot \rho$ $\Delta = \left(1.81858 \cdot 10^5\right)\ tonne$

$x_t := \frac{-L}{2}$ $x_t = -145\ m$ $x'_t := \frac{x_t}{L}$ $x'_t = -0.5$

$T := 10\ kN$ $T' := \frac{T}{\frac{1}{2} \cdot \rho \cdot L^2 \cdot V^2}$ $T' = 3.896 \cdot 10^{-6}$

Clarke coefficients (linear velocity and acceleration)

$$Y'_{vdot} := -\pi \cdot \left(\frac{d}{L}\right)^2 \cdot \left(1 + 0.16 \cdot C_b \cdot \frac{B}{d} - 5.1 \cdot \left(\frac{B}{L}\right)^2\right) \qquad Y'_{vdot} = -0.012$$

$$Y'_{rdot} := -\pi \cdot \left(\frac{d}{L}\right)^2 \cdot \left(0.67 \cdot \frac{B}{L} - 0.0033 \cdot \left(\frac{B}{d}\right)^2\right) \qquad Y'_{rdot} = -7.713 \cdot 10^{-4}$$

$$N'_{vdot} := -\pi \cdot \left(\frac{d}{L}\right)^2 \cdot \left(1.1 \cdot \frac{B}{L} - 0.041 \cdot \frac{B}{d}\right) \qquad N'_{vdot} = -5.59 \cdot 10^{-4}$$

$$N'_{rdot} := -\pi \cdot \left(\frac{d}{L}\right)^2 \cdot \left(\frac{1}{12} + 0.017 \cdot C_b \cdot \frac{B}{d} - 0.33 \cdot \frac{B}{L}\right) \qquad N'_{rdot} = -6.685 \cdot 10^{-4}$$

$$Y'_v := -\pi \cdot \left(\frac{d}{L}\right)^2 \cdot \left(1 + 0.40 \cdot C_b \cdot \frac{B}{d}\right) \qquad Y'_v = -0.019$$

$$Y'_r := -\pi \cdot \left(\frac{d}{L}\right)^2 \cdot \left(-0.5 + 2.2 \cdot \frac{B}{L} - 0.08 \cdot \frac{B}{d}\right) \qquad Y'_r = 0.004$$

$$N'_v := -\pi \cdot \left(\frac{d}{L}\right)^2 \cdot \left(0.5 + 2.4 \cdot \frac{d}{L}\right) \qquad N'_v = -0.006$$

$$N'_r := -\pi \cdot \left(\frac{d}{L}\right)^2 \cdot \left(0.25 + 0.039 \cdot \frac{B}{d} - 0.56 \cdot \frac{B}{L}\right) \qquad N'_r = -0.003$$

$Y'_\delta := 3186 \cdot 10^{-6}$ $N'_\delta := -1402 \cdot 10^{-6}$ $m' := 14622 \cdot 10^{-6}$ $mxG' := 365 \cdot 10^{-6}$ $I'_{zz} := 766 \cdot 10^{-6}$

$$M' := \begin{bmatrix} -Y'_{vdot} + m' & -Y'_{rdot} + mxG' \\ -N'_{vdot} + mxG' & -N'_{rdot} + I'_{zz} \end{bmatrix} \qquad M' = \begin{bmatrix} 0.027 & 0.001 \\ 9.24 \cdot 10^{-4} & 0.001 \end{bmatrix}$$

$$D' := \begin{bmatrix} -Y'_v & -Y'_r + m' \\ -N'_v & -N'_r + mxG' \end{bmatrix} \qquad D' = \begin{bmatrix} 0.019 & 0.011 \\ 0.006 & 0.003 \end{bmatrix}$$

$$R' := \begin{bmatrix} Y'_\delta \\ N'_\delta \end{bmatrix} \qquad R' = \begin{bmatrix} 0.003 \\ -0.001 \end{bmatrix}$$

$$Thrust := \begin{bmatrix} T' \\ T' \cdot x'_t \end{bmatrix} \qquad Thrust = \begin{bmatrix} 3.896 \cdot 10^{-6} \\ -1.948 \cdot 10^{-6} \end{bmatrix}$$

You hadn't defined δ, so I set an arbitrary value here: $\delta := 1$

Easier to solve if you separate x1\` and x2\`

$$soln(x1, x2) := M' \cdot \begin{bmatrix} x1p \\ x2p \end{bmatrix} + D' \cdot \begin{bmatrix} x1 \\ x2 \end{bmatrix} = R' \cdot \delta + Thrust \xrightarrow{solve,\, x1p,\, x2p} \left[\frac{0.000055794282942704887032 \cdot m}{knot^2 \cdot tonne} \right.$$

Constraints
Guess Values

$$\frac{d}{dt} x1(t) = soln(x1(t), x2(t))_{0,0} \qquad x1(0) = 0$$

$$\frac{d}{dt} x2(t) = soln(x1(t), x2(t))_{0,1} \qquad x2(0) = 0$$

Solver

$$\begin{bmatrix} v \\ r \end{bmatrix} := \mathbf{odesolve}\left(\begin{bmatrix} x1(t) \\ x2(t) \end{bmatrix}, 30 \right)$$