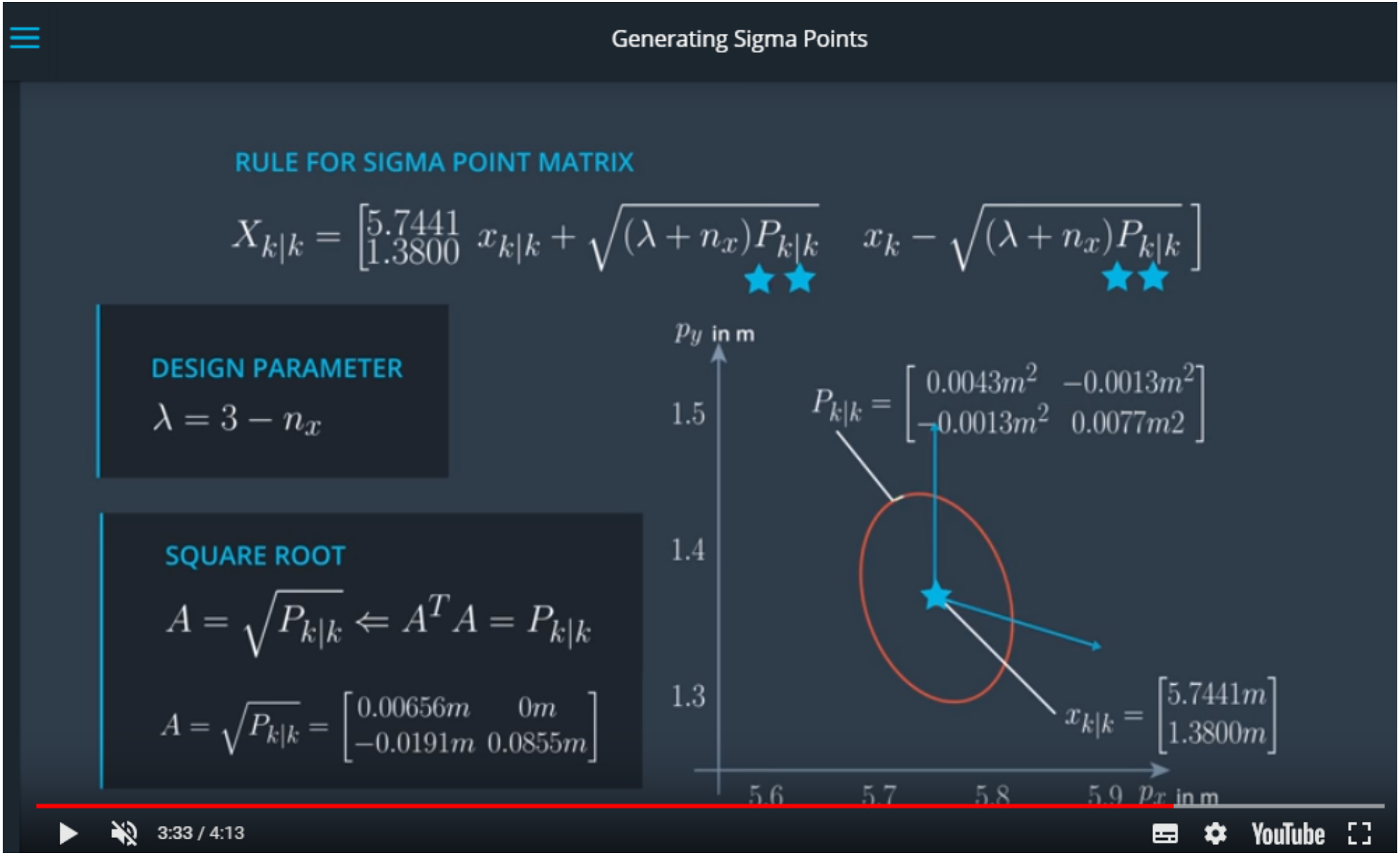
Generating Sigma Points
RULE FOR SIGMA POINT MATRIX
$X_{k|k} = \begin{bmatrix} 5.7441 & x_{k|k} + \sqrt{(\lambda + n_x) P_{k|k}} & x_k - \sqrt{(\lambda + n_x) P_{k|k}} \\ 1.3800 & & \end{bmatrix}$
DESIGN PARAMETER
$\lambda = 3 - n_x$
SQUARE ROOT
$A = \sqrt{P_{k|k}} \Leftarrow A^T A = P_{k|k}$
$A = \sqrt{P_{k|k}} = \begin{bmatrix} 0.00656m & 0m \\ -0.0191m & 0.0855m \end{bmatrix}$
p_y in m
1.5
1.4
1.3
$P_{k|k} = \begin{bmatrix} 0.0043m^2 & -0.0013m^2 \\ -0.0013m^2 & 0.0077m2 \end{bmatrix}$
$x_{k|k} = \begin{bmatrix} 5.7441m \\ 1.3800m \end{bmatrix}$
5.6
5.7
5.8
5.9
p_x in m
3:33 / 4:13
YouTube