Cp-λ Plot: Constant ω

From Class:

$\lambda = \omega R/v$

$\omega_{rated} = \omega$ at Cp_{max} & v_{rated}

$\Downarrow$

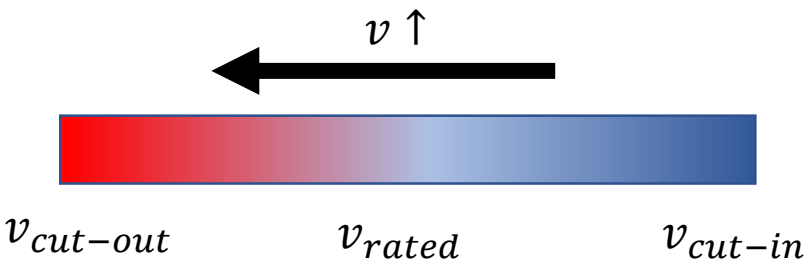
$\lambda = \omega_{rated} R/v$

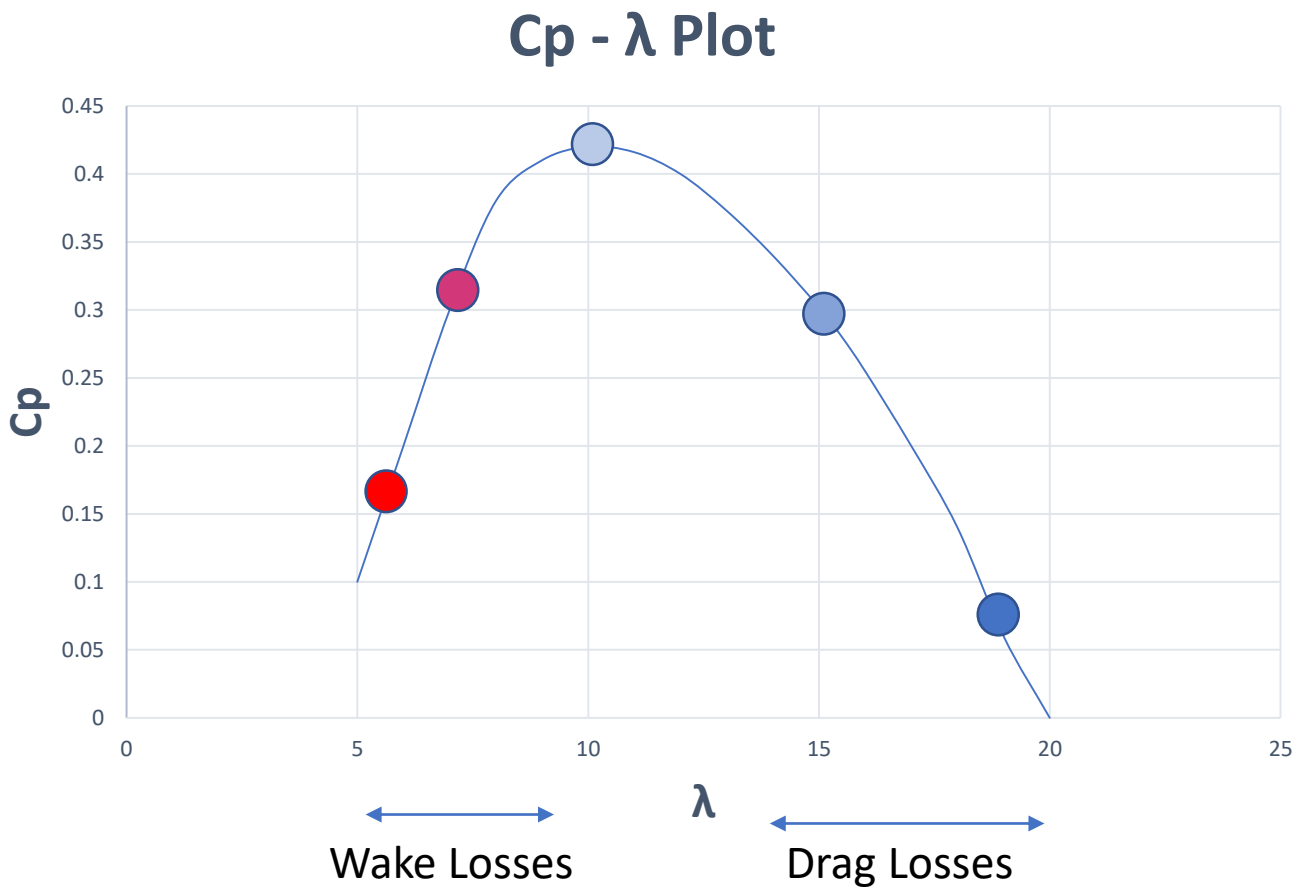
As v inc. from v_{cut-in} to v_{rated}

$\lambda \rightarrow \lambda_{rated}$

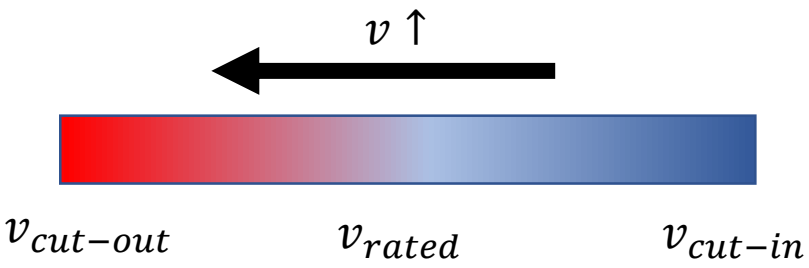
As v inc. from v_{rated} to $v_{cut-out}$

$\lambda \rightarrow 0$





Cp-λ Plot: Variable ω



$\omega_{max} = \omega_{rated}$ at Cp_{max} & v_{rated}

As v inc. from v_{cut-in} to v_{rated}

$$\text{Cp} = \text{Const.}$$

As v inc. from $v_{cut-out}$ to $v_{cut-out}$

$$\text{Cp} \downarrow \text{ but } v\uparrow \text{ and } \omega \downarrow$$

$$\Downarrow$$

$$\lambda \rightarrow 0$$