Introdução às Turbinas e Sistemas de Correnteza

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Departamento de Engenharia Naval e Oceânica

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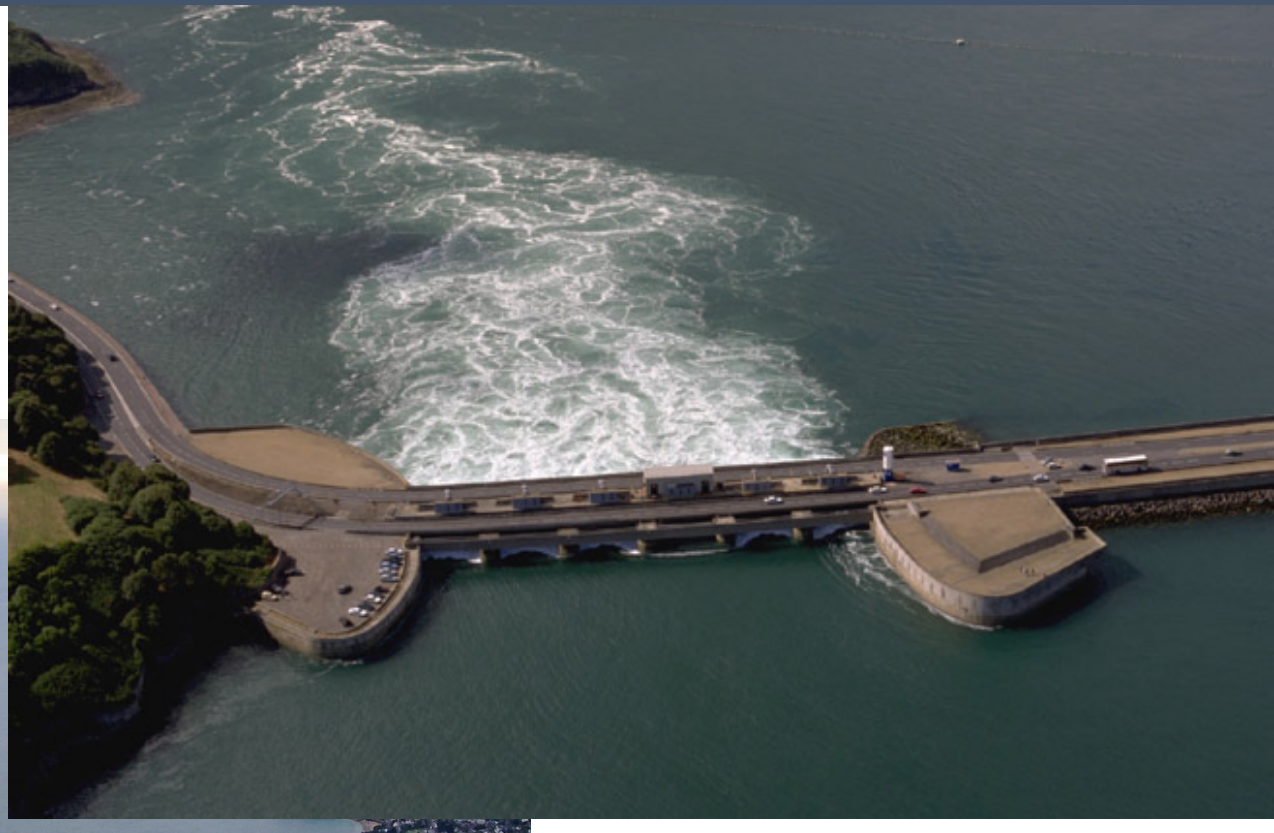
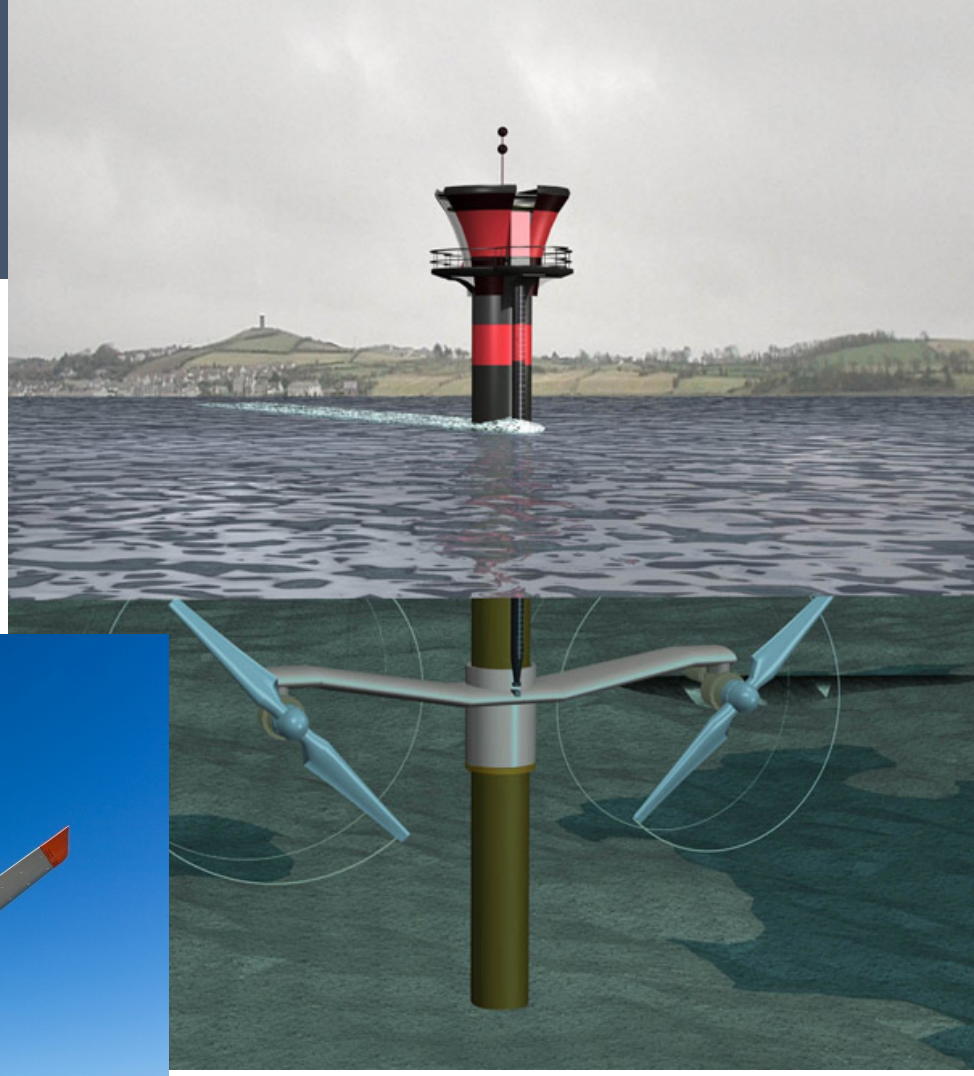
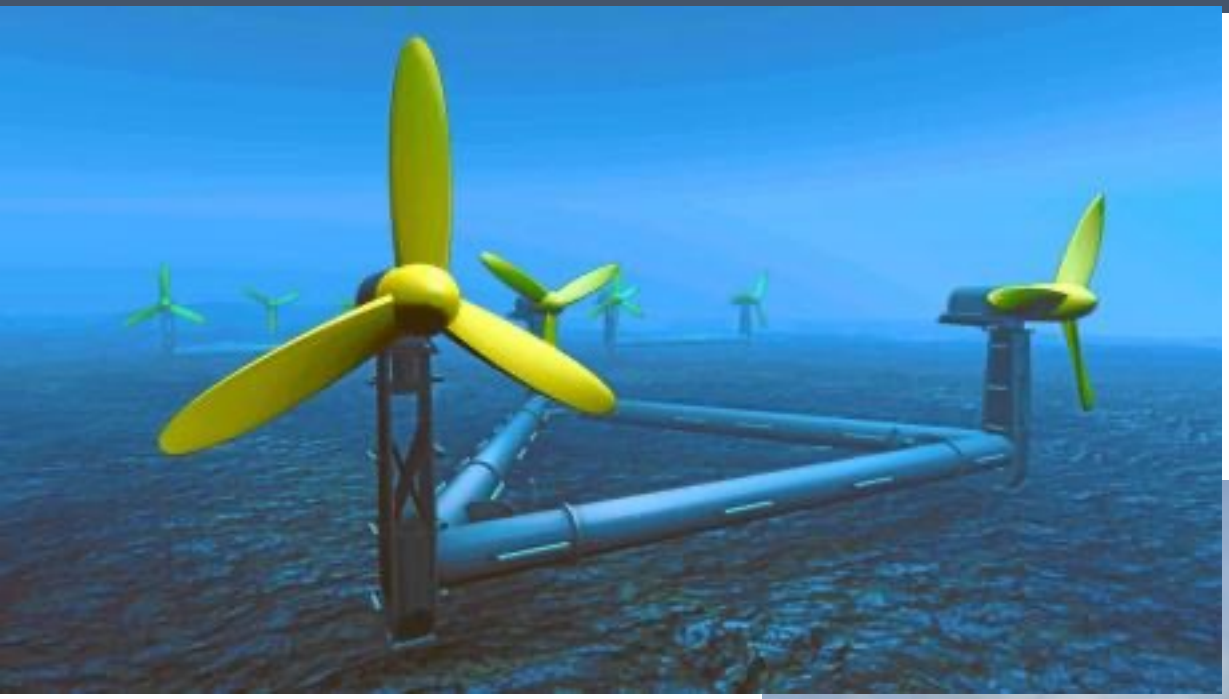
La Rance, Francia



SeaGen



DeltaStream



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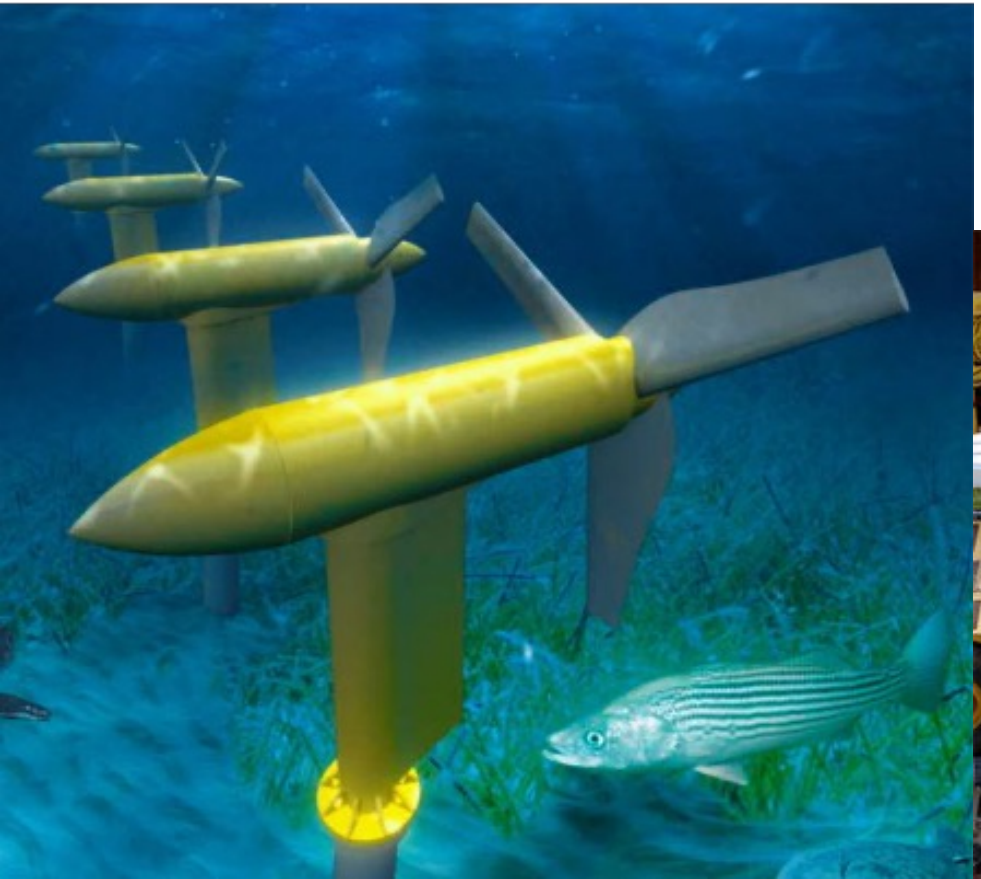
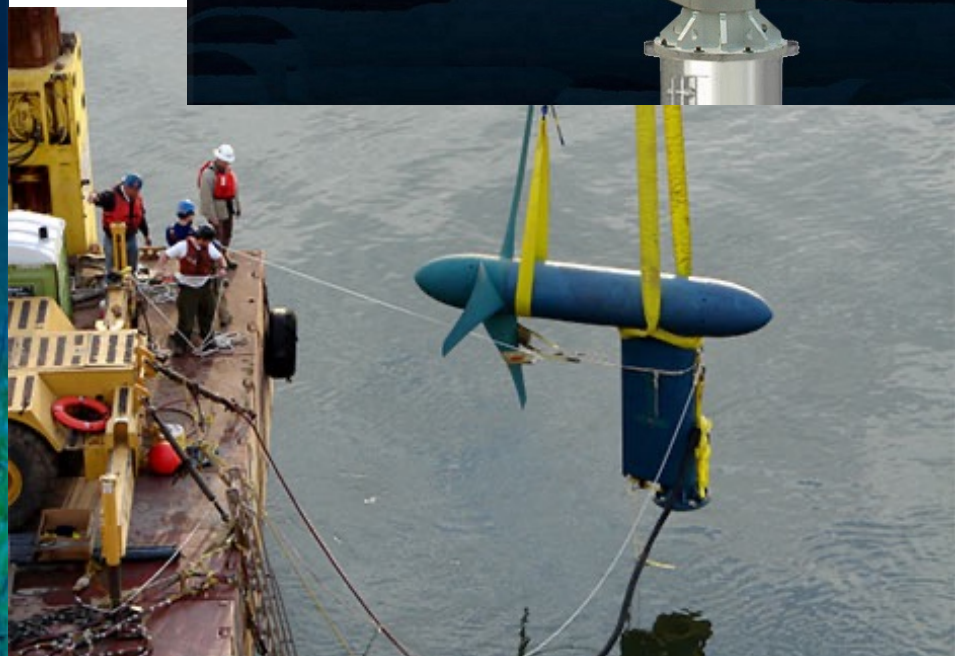
Free Flow Turbine





Solon Turbine

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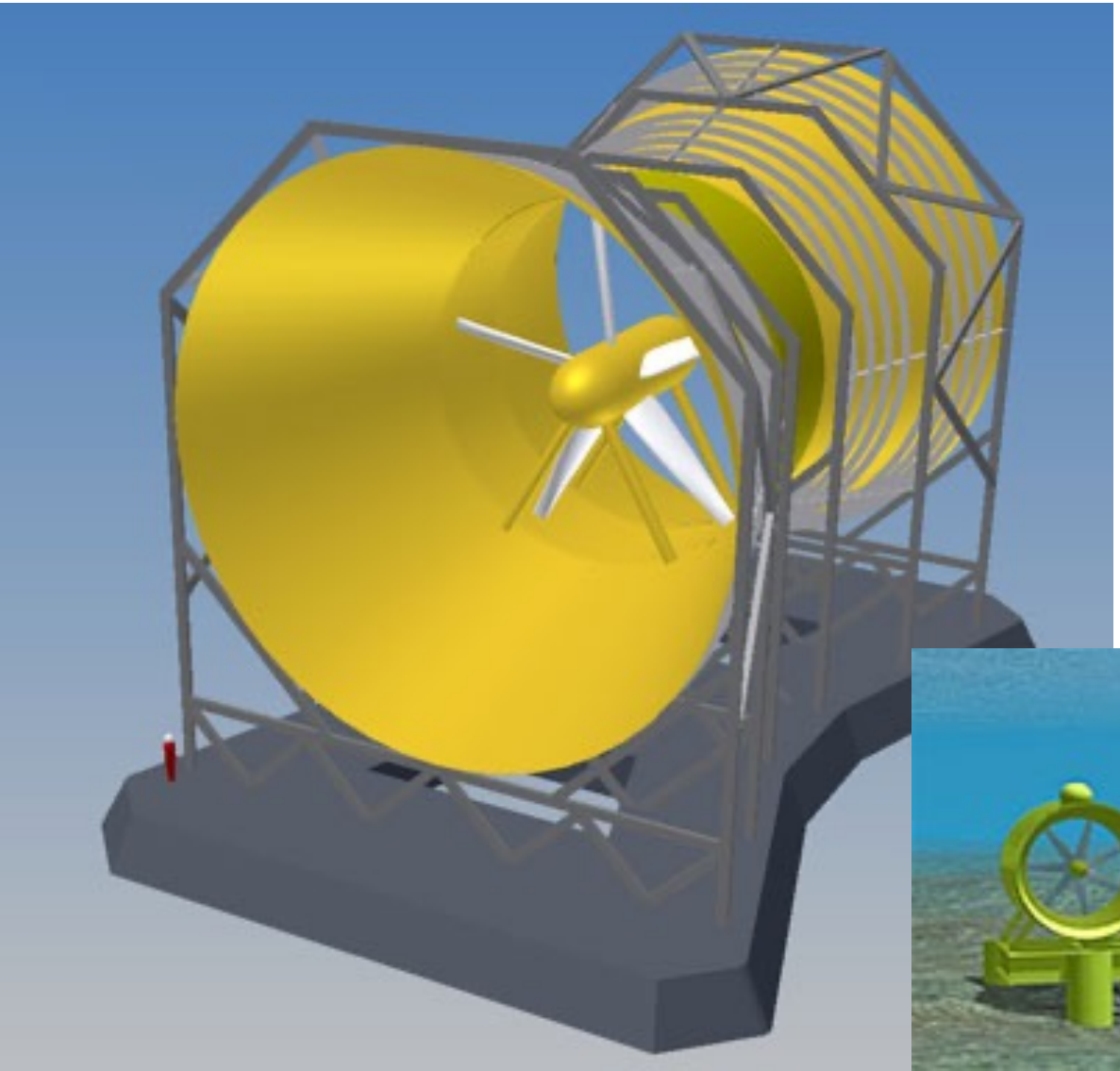
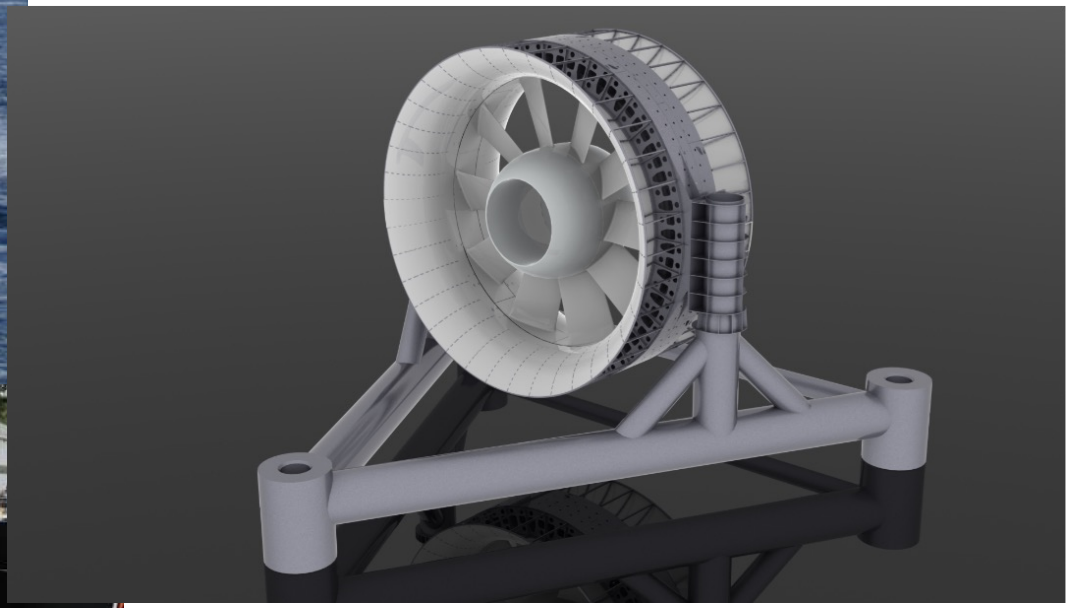
Lunar Energy



Open Hydro Turb.



Conceitos Alternativos

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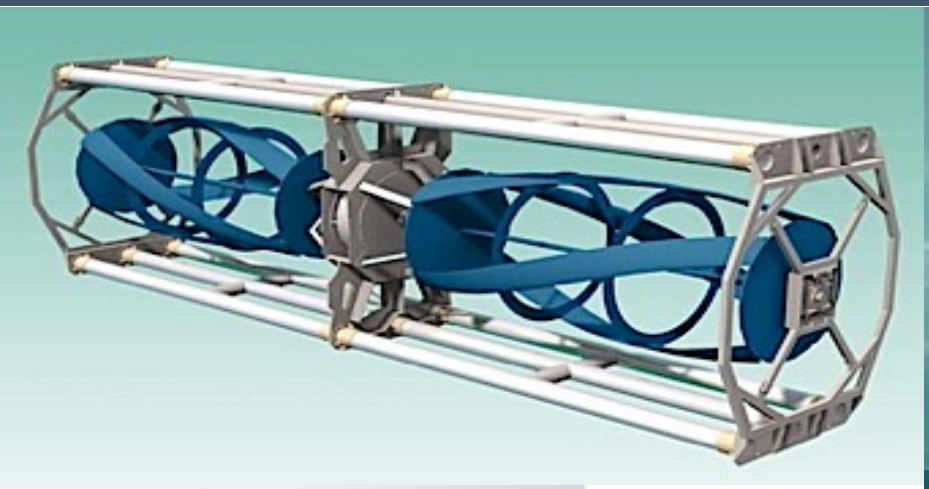
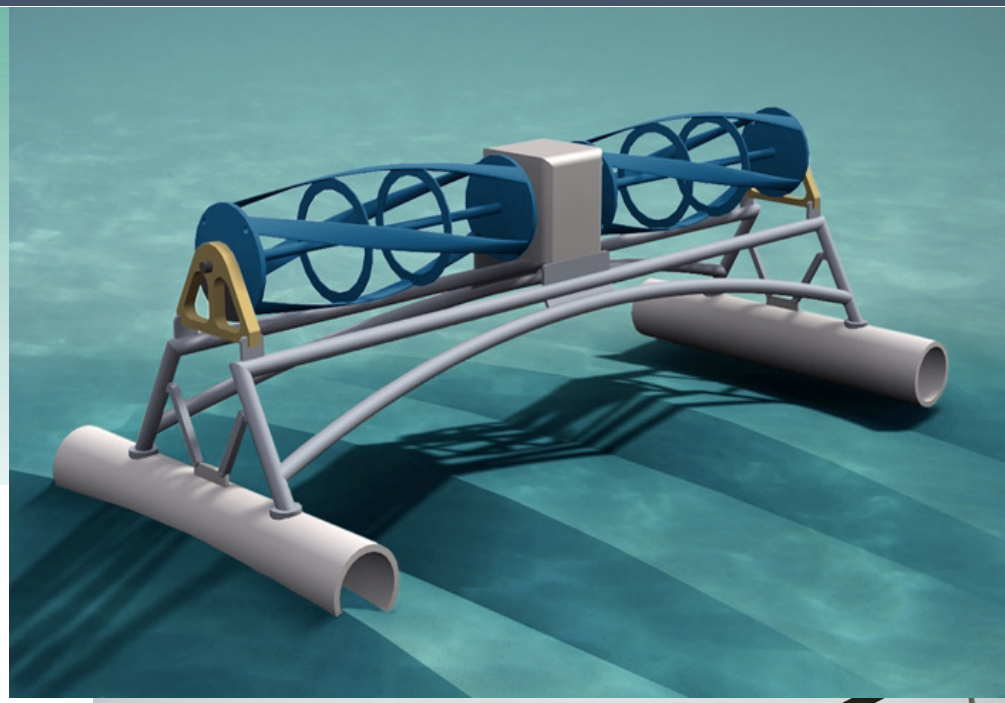
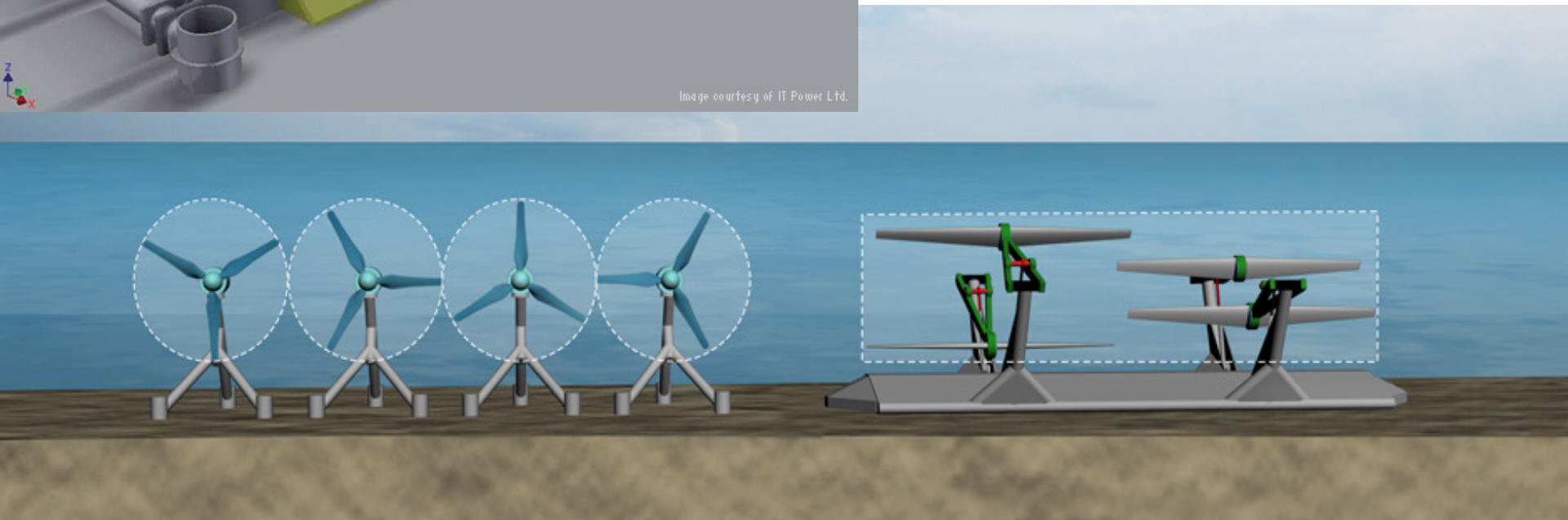
Archimedes Screw

Turbina Gorlov

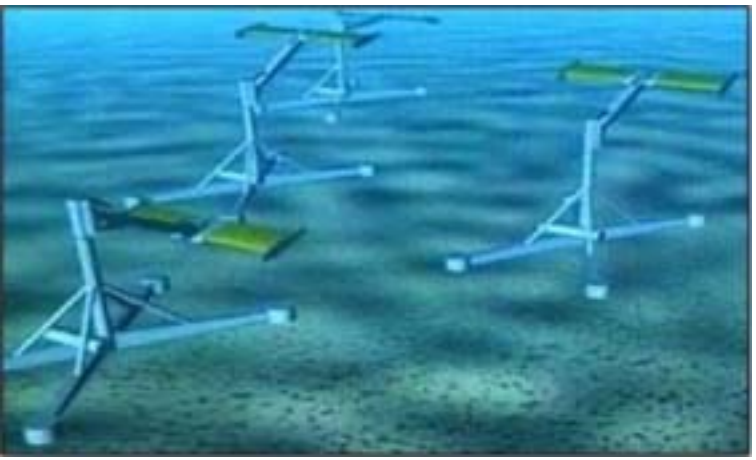




Pulse Generator



Stingray Generator



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Tidal Kite

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Teoria do Disco Atuador

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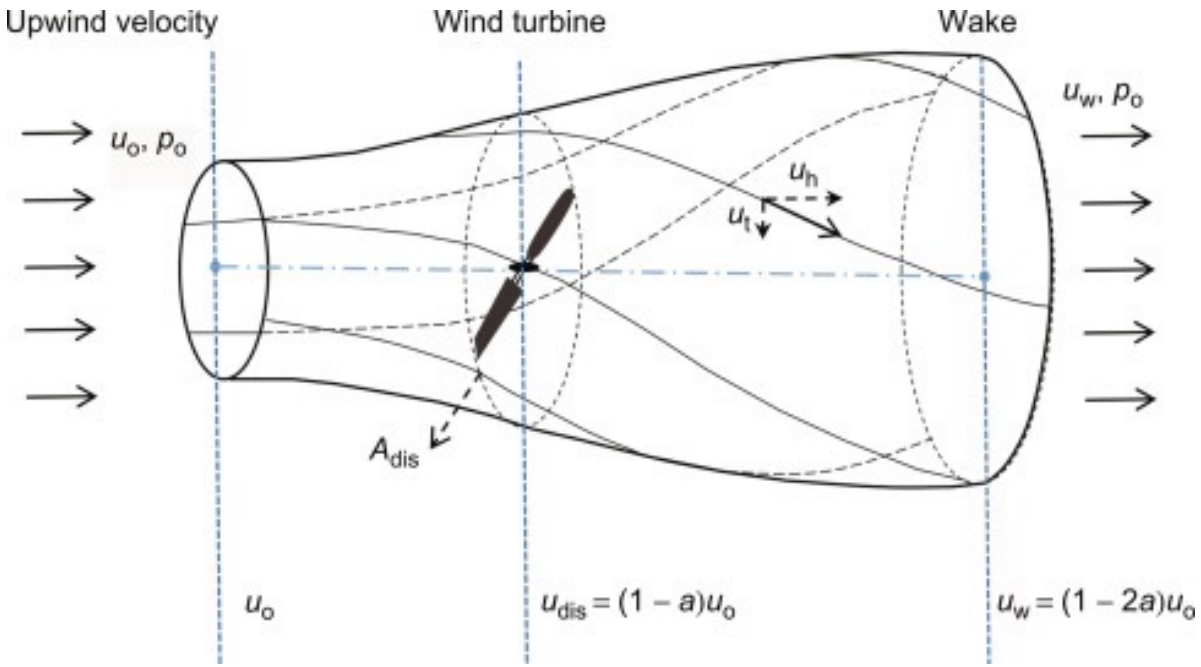
Teoria do Disco Atuador



Fator de indução axial (a, a>0): $U_{dis} = U_0(1 - a)$

https://www.sciencedirect.com/topics/engineering/induction-factor

Teoria do Disco Atuador

O **empuxo (T)** pode ser obtido a partir da taxa de variação da quantidade de movimento do fluxo axial entre as seções à montante e à jusante:

$$T = \dot{m}(U_0 - u_w)$$

O **coeficiente de potencia (Cp)** estará definido como:

$$C_p = \frac{P}{P_{disp}} = 4a(1-a)^2$$

O **coeficiente de empuxo (C_T)** estará definido como:

$$C_T = \frac{T}{\frac{1}{2}\rho A u_0^2} = 4a(1-a)$$

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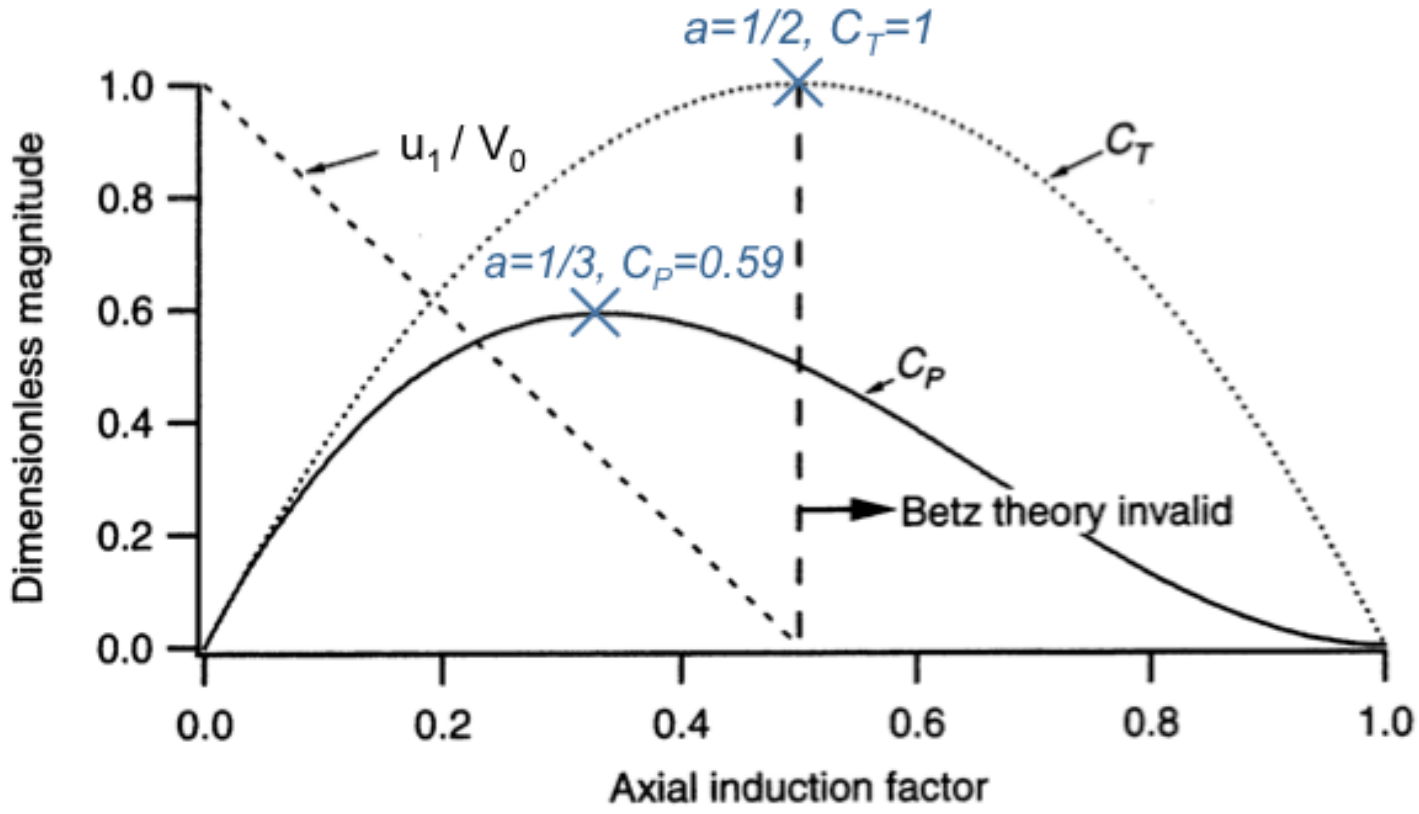
Teoria do Disco Atuador



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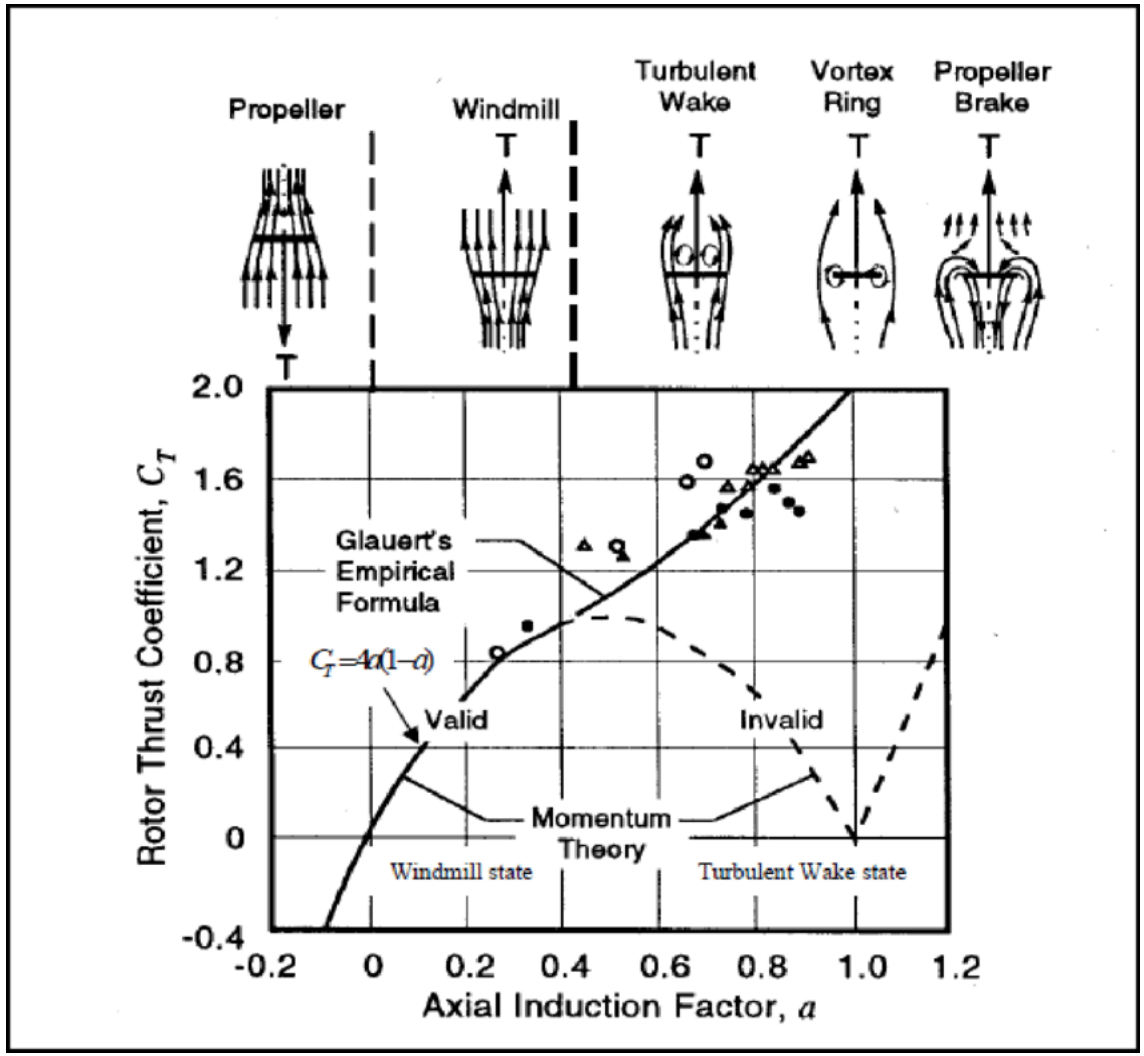
Teoria do Disco Atuador



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