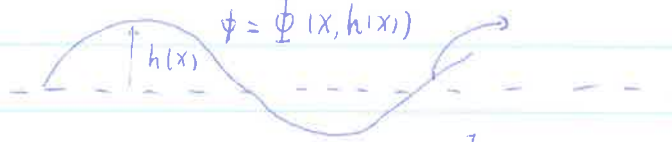
10/26 Benoit Pausader / Alexandru Ionescu

Assume $\rho \equiv Cle \equiv 0$

$\phi = \Phi(x, h(x))$

Interface $\begin{cases} [\![P]\!] = \sigma H \\ \partial_t h + v_x \nabla_x h = v_y \end{cases}$



$v = \nabla \Phi$ $\qquad \Delta \Phi = 0$

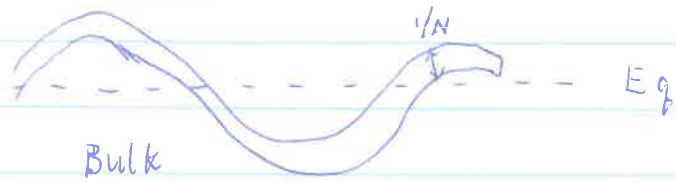
$x \in \mathbb{R}^2$

Water $\begin{cases} \partial_t v + v \cdot \nabla v = -\nabla p - g e_y \\ \operatorname{div} v = 0, \quad \operatorname{curl} v = 0 \end{cases}$

$v \to 0$ at ∞

$$H = \operatorname{div}_x \left(\frac{\nabla h}{(1+|\nabla h|^2)^{3/2}} \right) \quad \text{mean curvature}$$

Linear disp $\qquad \Lambda = (g|\nabla| + \sigma|\nabla|^3)^{1/2}$



Linear unknown $\qquad U = (g - \sigma\Delta)^{1/2} h + i|\nabla|^{1/2} \phi$