

ySSH Altimetry observations estimation

$$f_{\phi,\psi}\in\mathcal{F}$$

State estimation

Variational data assimilation

$$\hat{x} = rg \min_{x} \left[J(x, y) \right]$$

Neural network inference ψ

$$ig|\hat{x}=x^N=x^{N-1}-\psi(
abla_xJ(x^{N-1},y))$$

SSH estimation

Grid interpolation



Altimetry observations,



distribution

State formulation

- Augmented state x_{ssh}

$$x=(x_{ssh},x_{aug})$$

Scale decomposition

$$x=\left(x_{ss},x_{ls}
ight)$$

Prior formulation

Energy based modeling

$$E(x) = \|x - \phi(x)\|_{l2}$$