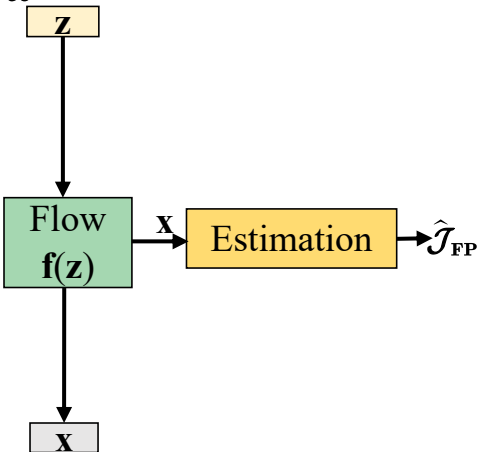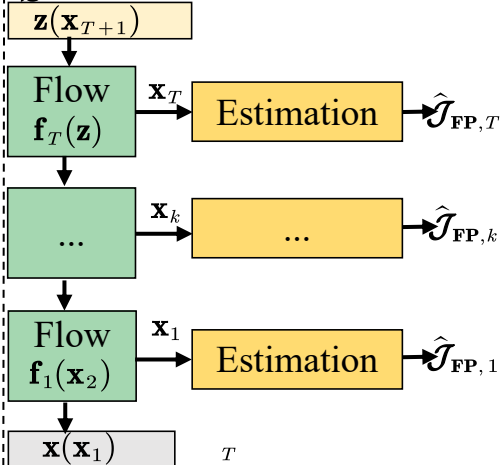**a**

$$\hat{\mathcal{J}}_{\mathbf{FP}} = \left\| \frac{\partial \mathbf{f^{-1}}}{\partial \mathbf{x}} \boldsymbol{\epsilon} \right\|^{-D}$$

b

$$\hat{\mathcal{J}}_{\mathbf{FP++}} = \prod_{k=1}^{T} \hat{\mathcal{J}}_{\mathbf{FP},k}$$

$$= \prod_{k=1}^{T} \left\| \frac{\partial \mathbf{f}_k^{-1}}{\partial \mathbf{x}_k} \boldsymbol{\epsilon}_k \right\|^{-D}$$