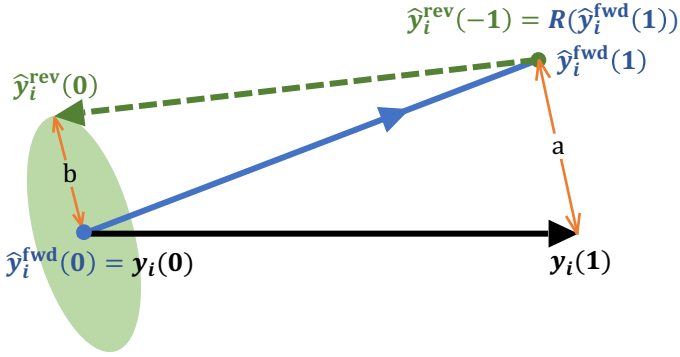
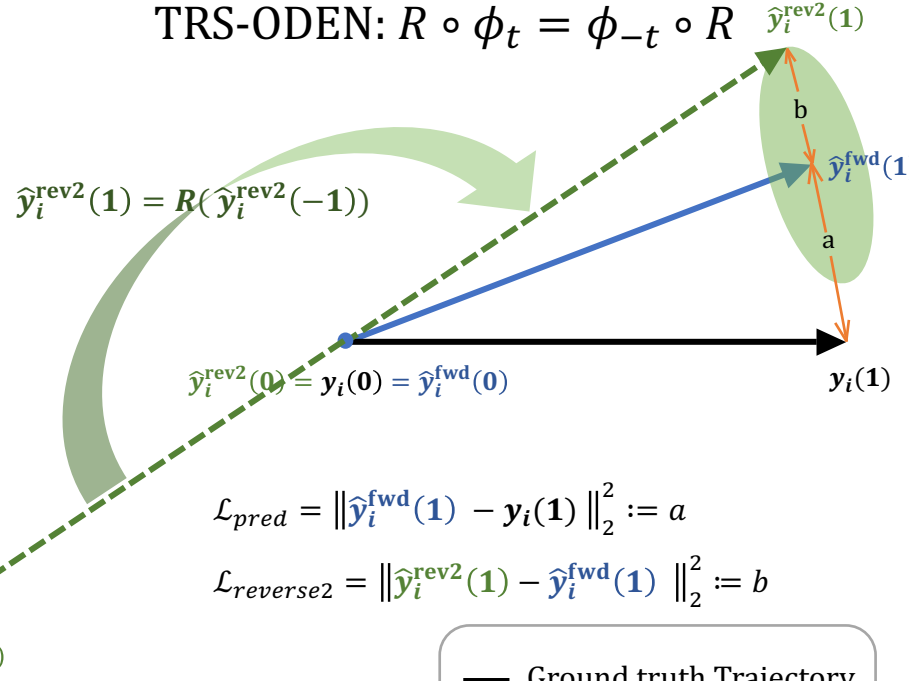
TREAT: $R \circ \phi_t \circ R \circ \phi_t = I$



$$\mathcal{L}_{pred} = \left\| \hat{y}_i^{fwd}(1) - y_i(1) \right\|_2^2 := a$$

$$\mathcal{L}_{reverse} = \left\| R(\hat{y}_i^{rev}(0)) - \hat{y}_i^{fwd}(0) \right\|_2^2 := b$$

TRS-ODEN: $R \circ \phi_t = \phi_{-t} \circ R$



$$\mathcal{L}_{pred} = \left\| \hat{y}_i^{fwd}(1) - y_i(1) \right\|_2^2 := a$$

$$\mathcal{L}_{reverse2} = \left\| \hat{y}_i^{rev2}(1) - \hat{y}_i^{fwd}(1) \right\|_2^2 := b$$

$$MaxError_{\text{TREAT}} = \max\{a, b\}$$

$$MaxError_{\text{TRS-ODEN}} = a + b$$

Ground truth Trajectory
Forward Trajectory
Reverse Trajectory