

	Pose Composition	Pose Inverse	Relative Pose
Independent	$\mathbf{T}_{ab} = \exp(\hat{\boldsymbol{\xi}}_{ab}^\wedge) \bar{\mathbf{T}}_{ab} \quad \bar{\mathbf{T}}_{ab} \in \text{SE}(3), \hat{\boldsymbol{\xi}}_{ab}^\wedge \in \mathfrak{se}(3)$		
	$\begin{aligned} \boldsymbol{\xi}_{ij} &\sim \mathcal{N}(\mathbf{0}, \boldsymbol{\Sigma}_{ij}) \\ \boldsymbol{\xi}_{jk} &\sim \mathcal{N}(\mathbf{0}, \boldsymbol{\Sigma}_{jk}) \end{aligned}$	$\boldsymbol{\xi}_{ij} \sim \mathcal{N}(\mathbf{0}, \boldsymbol{\Sigma}_{ij})$	$\begin{aligned} \boldsymbol{\xi}_{ij} &\sim \mathcal{N}(\mathbf{0}, \boldsymbol{\Sigma}_{ij}) \\ \boldsymbol{\xi}_{jk} &\sim \mathcal{N}(\mathbf{0}, \boldsymbol{\Sigma}_{jk}) \end{aligned}$
	$\begin{aligned} \bar{\mathbf{T}}_{ik} &\triangleq \bar{\mathbf{T}}_{ij} \bar{\mathbf{T}}_{jk} \\ \boldsymbol{\Sigma}_{ik} &\approx \boldsymbol{\Sigma}_{ij} + \text{Ad}_{\bar{\mathbf{T}}_{ij}} \boldsymbol{\Sigma}_{jk} \text{Ad}_{\bar{\mathbf{T}}_{ij}}^\top \end{aligned}$	$\begin{aligned} \bar{\mathbf{T}}_{ji} &\triangleq \bar{\mathbf{T}}_{ij}^{-1} \\ \boldsymbol{\Sigma}_{ji} &\approx \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}} \boldsymbol{\Sigma}_{ij} \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}}^\top \end{aligned}$	$\begin{aligned} \bar{\mathbf{T}}_{jk} &\triangleq \bar{\mathbf{T}}_{ij}^{-1} \bar{\mathbf{T}}_{ik} \\ \boldsymbol{\Sigma}_{jk} &\approx \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}} \boldsymbol{\Sigma}_{ij} \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}}^\top + \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}} \boldsymbol{\Sigma}_{ik} \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}}^\top \end{aligned}$
Relative	$\mathbf{T}_{ab} = \exp(\hat{\boldsymbol{\xi}}_{ab}^\wedge) \bar{\mathbf{T}}_{ab} \quad \bar{\mathbf{T}}_{ab} \in \text{SE}(3), \hat{\boldsymbol{\xi}}_{ab}^\wedge \in \mathfrak{se}(3)$		
	$\begin{aligned} \boldsymbol{\xi} &= \begin{bmatrix} \boldsymbol{\xi}_{ij}^\top, \boldsymbol{\xi}_{jk}^\top \end{bmatrix}^\top \sim \mathcal{N}(\mathbf{0}, \boldsymbol{\Sigma}) \\ \boldsymbol{\Sigma} &= \begin{bmatrix} \boldsymbol{\Sigma}_{ij} & \boldsymbol{\Sigma}_{ij,jk} \\ \boldsymbol{\Sigma}_{ij,jk}^\top & \boldsymbol{\Sigma}_{jk} \end{bmatrix} \end{aligned}$	$\boldsymbol{\xi}_{ij} \sim \mathcal{N}(\mathbf{0}, \boldsymbol{\Sigma}_{ij})$	$\begin{aligned} \boldsymbol{\xi} &= \begin{bmatrix} \boldsymbol{\xi}_{ij}^\top, \boldsymbol{\xi}_{jk}^\top \end{bmatrix}^\top \sim \mathcal{N}(\mathbf{0}, \boldsymbol{\Sigma}) \\ \boldsymbol{\Sigma} &= \begin{bmatrix} \boldsymbol{\Sigma}_{ij} & \boldsymbol{\Sigma}_{ij,jk} \\ \boldsymbol{\Sigma}_{ij,jk}^\top & \boldsymbol{\Sigma}_{jk} \end{bmatrix} \end{aligned}$
	$\begin{aligned} \bar{\mathbf{T}}_{ik} &\triangleq \bar{\mathbf{T}}_{ij} \bar{\mathbf{T}}_{jk} \\ \boldsymbol{\Sigma}_{ik} &\approx \boldsymbol{\Sigma}_{ij} + \text{Ad}_{\bar{\mathbf{T}}_{ij}} \boldsymbol{\Sigma}_{jk} \text{Ad}_{\bar{\mathbf{T}}_{ij}}^\top + \\ &\quad + \boldsymbol{\Sigma}_{ij,jk} \text{Ad}_{\bar{\mathbf{T}}_{ij}}^\top + \text{Ad}_{\bar{\mathbf{T}}_{ij}} \boldsymbol{\Sigma}_{ij,jk}^\top \end{aligned}$	$\begin{aligned} \bar{\mathbf{T}}_{ji} &\triangleq \bar{\mathbf{T}}_{ij}^{-1} \\ \boldsymbol{\Sigma}_{ji} &\approx \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}} \boldsymbol{\Sigma}_{ij} \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}}^\top \end{aligned}$	$\begin{aligned} \bar{\mathbf{T}}_{jk} &\triangleq \bar{\mathbf{T}}_{ij}^{-1} \bar{\mathbf{T}}_{ik} \\ \boldsymbol{\Sigma}_{jk} &\approx \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}} \boldsymbol{\Sigma}_{ij} \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}}^\top + \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}} \boldsymbol{\Sigma}_{ik} \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}}^\top + \\ &\quad - \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}} \boldsymbol{\Sigma}_{ij,ik} \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}}^\top - \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}} \boldsymbol{\Sigma}_{ij,ik}^\top \text{Ad}_{\bar{\mathbf{T}}_{ij}^{-1}}^\top \end{aligned}$