

## Original

$$T_{X_t}^{-,X_{t-1}} = \dot{x}t$$

$$T_{X_t}^{-,0} = T_{X_{t-1}}^0 T_{X_t}^{-,X_{t-1}}$$

$$T_{X_t}^{-,K} = T_0^K T_{X_t}^{-,0}$$

$$T_{L_t}^{-,L_K} = T_X^L T_{X_t}^{-,K} T_L^X$$

$$T_{L_t}^{+,L_K} = ICP(sen = T_{L_t}^{-,L_K}, ref = [I|\vec{0}])$$

$$T_{X_t}^{+,X_K} = T_L^X T_{L_t}^{+,L_K} T_X^L$$

$$T_{X_t}^{+,0} = T_{X_K}^0 T_{X_t}^{+,X_K}$$

## Modified

$$T_{X_t}^{-,X_{t-1}} = \dot{x}t$$

$$T_{X_t}^{-,0} = T_{X_{t-1}}^0 T_{X_t}^{-,X_{t-1}}$$

$$T_{L_t}^{-,0} = T_{X_t}^{-,0} T_L^X$$

$$T_{L_t}^{+,0} = ICP(T_{L_t}^{-,0}, [I|\vec{0}])$$

$$T_{X_t}^{+,0} = T_{L_t}^{+,0} T_X^L$$

$T_0^K$  is reassigned everytime the robot movement is above threshold

$K$ : Keyframe, introduced in order to prevent drift caused from frame-by-frame comparison