

$$S \xleftarrow[\text{diffeo}]{\sim} \acute{S} \Rightarrow \mathcal{Q}_{-\infty}^{\#} S \xleftarrow[\text{isometric}]{\mathcal{Q}_{-\infty}^{\#} \sim} \mathcal{Q}_{-\infty}^{\#} \acute{S}$$

$$\text{Diff}(S) \rightarrow \mathcal{U} | \mathcal{Q}_{-\infty}^{\#} S$$

$$\text{tr } \mathcal{Q}_{-\infty}^{\#} \sim = \mathcal{Q}_{-\infty}^{\#} S \times_{\sim} 0 | 1 \in \mathcal{Q}_{-\infty}^{\#} S \times_{\sim} 0 | 1$$

$\underbrace{\hspace{10em}}_{= \emptyset}$