

$$\int_a^b d\gamma = \partial \mathcal{L} | \gamma = \partial H | \mathcal{L} \times \gamma$$

$$\text{LHS} = \int_a^b \mathcal{L} \times \sum_i \mathbb{L}^i (\mathbb{L} | \gamma) = \int_a^b \sum_i \mathcal{L}^i (\mathbb{L} | \gamma) = \int_a^b \mathcal{L} \times \gamma = \text{RHS}$$

$$\int_a^b \partial \gamma \cdot dR = \gamma^b - \gamma^a$$