

$\gamma \in H_{\mathbb{R}^n}^1$  orient 1-curve

1-cochain  $\alpha = \sum_i \alpha_i^i$  stet 1-form

$\gamma \times \alpha = dt \sum_i t_{\gamma}^i \alpha_i^i$  stet 1-form on H

$$\int_{\gamma} \alpha = \int_{dt}^H \sum_i t_{\gamma}^i \alpha_i^i = \sum_i \int_{|dt|}^H t_{\gamma}^i \alpha_i^i$$

$$\left| \int_{\gamma} \alpha \right| \leq |\gamma| \sum_i \alpha_i^i$$