

$$G_{\sigma}(s_{ik}) = \sum_j l_j \exp\left(-\frac{\text{dist}(b_i, b_j)}{(2\sigma^2)}\right) (s_j)^k$$

where

- $l_j \in \mathbb{R}$:the length of b_j
- $\text{dist} \in \mathbb{R}^n, \mathbb{R}^n \rightarrow \mathbb{R}$:measures the geodesic distance between the centers of b_i and b_j along the boundary
- $\sigma \in \mathbb{R}$
- $b_i \in \mathbb{R}^n$
- $b_j \in \mathbb{R}^n$
- $s_j \in \mathbb{R}$:unit direction vector of b_i
- $k \in \mathbb{R}$:iteration number