

证明 $k_{m \times m}$ 半正定 $\Rightarrow k(\vec{x}, \vec{y}) = \langle \phi(\vec{x}), \phi(\vec{y}) \rangle$

证: $k(\vec{x}, \vec{y}) = k(\cdot, \vec{x}) * k(\cdot, \vec{y}) = \langle k(\cdot, \vec{x}), k(\cdot, \vec{y}) \rangle$

$$\underline{\underline{k(\cdot, \vec{x}) = \phi(\vec{x})}} \langle \phi(\vec{x}), \phi(\vec{y}) \rangle$$