

$$M_2(\mathbf{x}_1, \mathbf{x}_2) = \sum_{i,j=1}^p w_i w_j \int_{\mathrm{SO}(3)} \delta_{\pi R a_i}(\mathbf{x}_1) \delta_{\pi R a_j}(\mathbf{x}_2) d\mu(R)$$