Physicus

December 31, 2024

$$\langle \psi |$$

$$| \psi \rangle$$

$$([\{A\}])$$

$$\langle \tilde{\psi}, \phi \rangle$$

$$\langle \tilde{\psi} | \phi \rangle$$

$$|a| \|b\|$$

$$\frac{a}{b}\Big|_c + \mathcal{O}(x^2)$$

$$\left[\hat{A}, \frac{B}{2}\right] + \left\{\hat{A}, \frac{B}{2}\right\}$$

$$\nabla \frac{\mathrm{d}a}{\mathrm{d}c} \frac{\mathrm{d}^2 a}{\mathrm{d}c^2}$$

$$\begin{aligned} \mathrm{Covar}_\psi(\mathcal{Z}_i, \mathcal{Z}_j) &= \mathbb{E}_\psi[(\mathcal{Z}_i - \mathbb{E}_\psi(\mathcal{Z}_i))(\mathcal{Z}_j - \mathbb{E}_\psi(\mathcal{Z}_j))] \\ &= \mathbb{E}_\psi[\mathcal{Z}_{ij}] - \mathbb{E}_\psi[\mathcal{Z}_i]\mathbb{E}_\psi[\mathcal{Z}_j] \\ &= \langle \psi | \hat{\mathcal{Z}}_{ij} | \psi \rangle - \langle \psi | \hat{\mathcal{Z}}_i | \psi \rangle \langle \psi | \hat{\mathcal{Z}}_j | \psi \rangle \end{aligned}$$

$$\mathcal{O}\left(\frac{x^2}{y}\right)$$