Physicus

November 15, 2024

$$\langle \psi |$$

$$| \psi \rangle$$

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

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

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

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

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

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

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