

$$-(1 - 2\hat{d}f/n)\|\mathbf{r} + (\hat{d}f/\text{tr}[\mathbf{V}])\psi(\mathbf{r})\|^2/n - (\hat{d}f/\text{tr}[\mathbf{V}])^2\|\psi(\mathbf{r})\|^2/n - 2(\hat{d}f/n)\|\mathbf{r}\|^2/n + \|\boldsymbol{\varepsilon}\|^2/n$$

