$$<\mathbf{K}|O_1|\mathbf{K}>=(\sum\limits_{m}^{\frac{N}{2}=N_{\alpha}}\mathbf{[m|h|m]}+\sum\limits_{m}^{\frac{N}{2}=N_{\beta}}\mathbf{[m|h|m]})=\sum\limits_{m}^{N}[m|h|m]$$