

$$\begin{aligned}
[x_e - x_h]^2 &= [(x_e - A_x + A_x) - (x_h - B_x + B_x)]^2 \\
&= [(x_e - A_x) - (x_h - B_x) + (A_x - B_x)]^2 \\
&= [(x_e - A_x) - (x_h - B_x)]^2 + (A_x - B_x)^2 + 2(A_x - B_x)[(x_e - A_x) - (x_h - B_x)] \\
&= (x_e - A_x)^2 + (x_h - B_x)^2 - 2(x_e - A_x)(x_h - B_x) + (A_x - B_x)^2 + 2(A_x - B_x)[(x_e - A_x) - (x_h - B_x)]
\end{aligned}
\tag{1}$$

$$\begin{aligned}
&\phi_x(n_x, \alpha_x, A_x) \\
\phi(\mathbf{r}) &= \phi_x(n_x, \alpha_x, A_x) \phi_y(n_y, \alpha_y, A_y) \phi_z(n_z, \alpha_z, A_z)
\end{aligned}
\tag{2}$$