

$$E_1\phi_1 = \left( -\frac{1}{2}\nabla^2 + \int \frac{1}{r_{12}} |\phi_2|^2 d^2r_2 \right) \phi_1$$

$$E_2\phi_2 = \left( -\frac{1}{2}\nabla^2 + \int \frac{1}{r_{12}} |\phi_1|^2 d^2r_1 \right) \phi_2$$

$\phi_1$  and  $\phi_2$  are the wave functions of two electrons, which are connected through

coulomb interactions as indicated by the term  $\int \frac{1}{r_{12}} |\phi_2|^2 d^2r_2$  and  $\int \frac{1}{r_{12}} |\phi_1|^2 d^2r_1$ . I used

two subdomain integration coupling variables, Inter1 and Inter2, to represent these two terms as you can see in the attached model file. Especially, in order to express the

distance between the two electrons,  $r_{12}$ , I used two frames. But when I solve the

model, it shows error "shape info not found" before it starts to compute the problem.