

take the example where  $m=0$  and  $n=1$  for spin orbs. then, I understand how an integral of this form  $[mn|nm] = [01|10] = \int dr_2 dr_1 \alpha^*(r_1) \beta(r_1) \beta^*(r_2) \alpha(r_2) (00|00) = 0 * (00|00) = 0$  would take into account spin, but I don't know how an integral of this  $[mm|nn] = [00|11] = \int dr_2 dr_1 \alpha^*(r_1) \alpha(r_1) \beta^*(r_2) \beta(r_2) (00|11) = 1 * (00|11)$  form would take into account spin though.