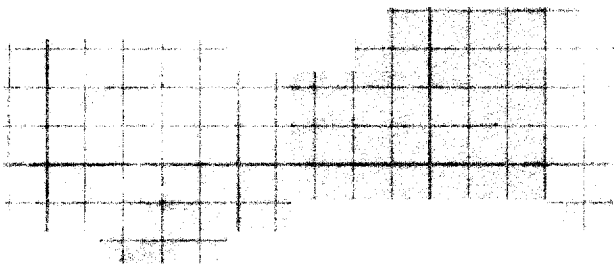
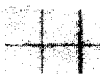


- ① Write the Slater Determinant for the ground state of C^{2+} .



- ② Why is the Slater determinant useful?



- ③ If $n=4$ what are the allowed values of m_l ?

- ④ Draw the MO diagram for N_2 . Is N_2 paramagnetic? What is the bond order (show work)?

