

ues of matrices  
rogrammed

e)  
al

on which  
orbitals

$$\begin{bmatrix}
 0 & 0 \\
 0 & 0 \\
 0 & -V(p_a, s^*c)g_1 \\
 0 & -V(p_a, s^*c)g_2 \\
 0 & -V(p_a, s^*c)g_3 \\
 (p_a, p_c)g_1^* & 0 \\
 (p_a, p_c)g_2^* & 0 \\
 (p_a, p_c)g_3^* & 0 \\
 (s^*, a) & V(s^*, s^*)g_0 \\
 (s^*, s^*)g_0^* & E(s^*, c)
 \end{bmatrix} \quad [1]$$

ynamic,

interactions  $\nu_2$   
3

- When the super-lattice anion and cation. Each cation as described in describe interactions onsite interactions and Hamiltonians described with+1 layer. These include nearest neighbor interactions

- The H and G matrices same or similar to the how many materials are

**Results:** I was able for the bulk case. For component of the model I was also able to reproduce program (below-right)

