Local Density of States, Surfaces, and Adsorbates

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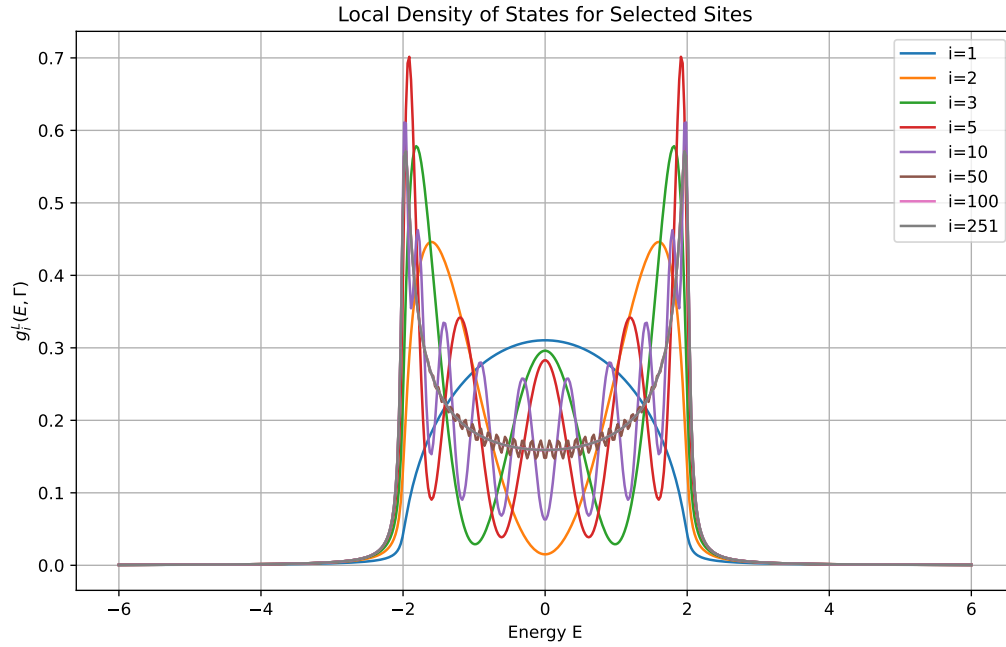# 1   LDOS 1D

1.1   First problem

Figure 1: Local density of states plotted for a 1D chain of length $N = 501$. The index i corresponds to the site number in the chain.

Noticeable in Fig. 1 is that the LDOS is symmetric around the central energy. For increasing i the number of nodes in the LDOS oscillation increases. The central amplitude also decreases while the amplitude at $E = \pm 2$ increases.
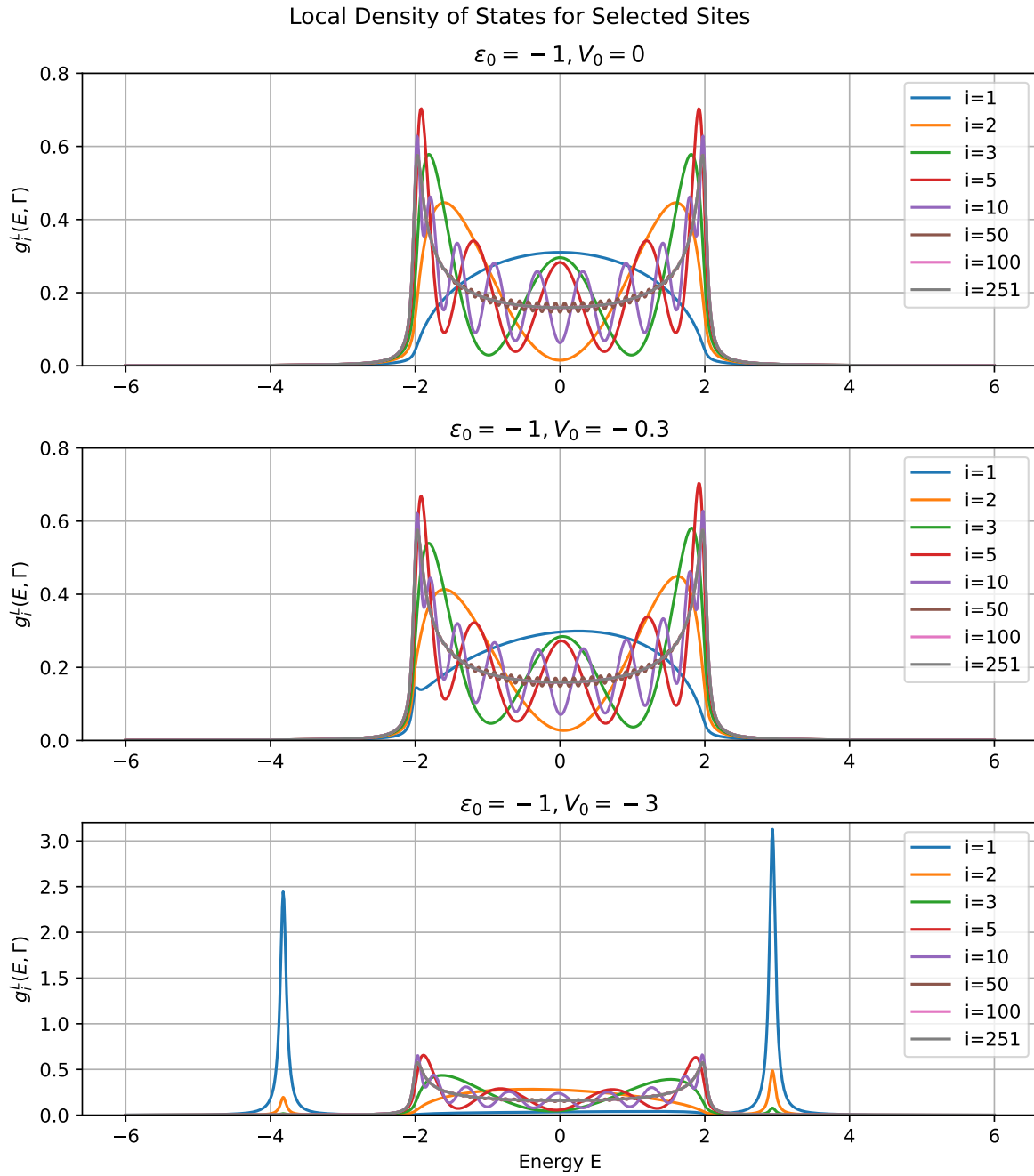
1.2   Second problem

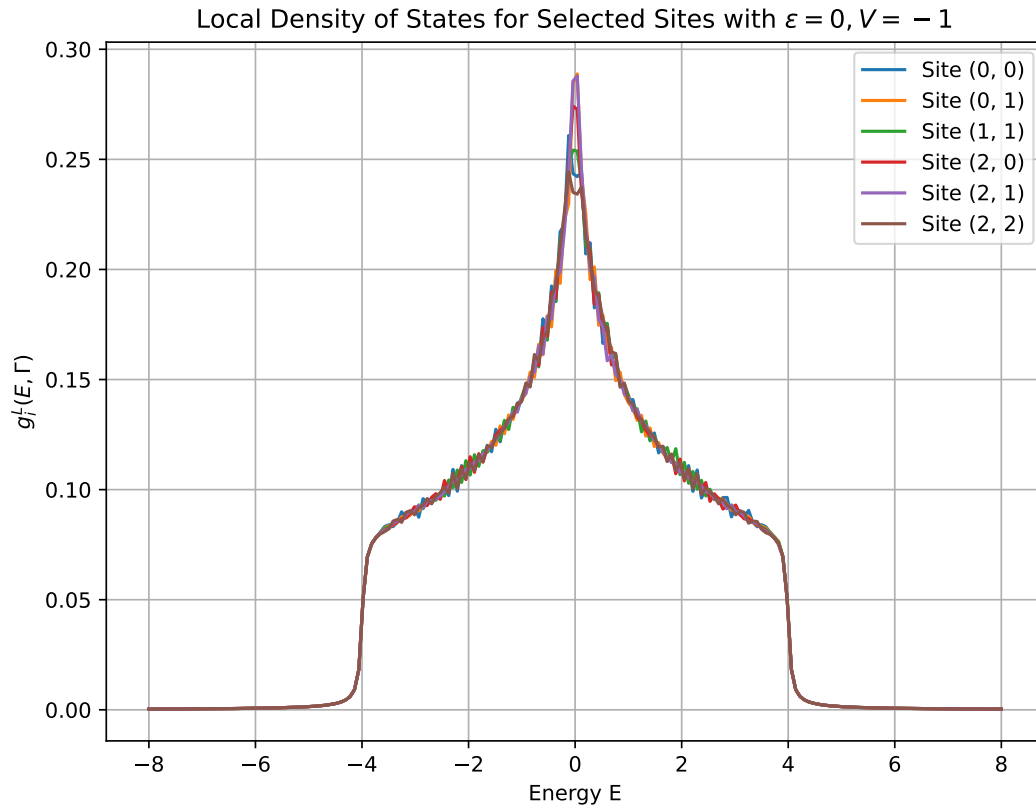Figure 2: This figure...

2 LDOS 2D

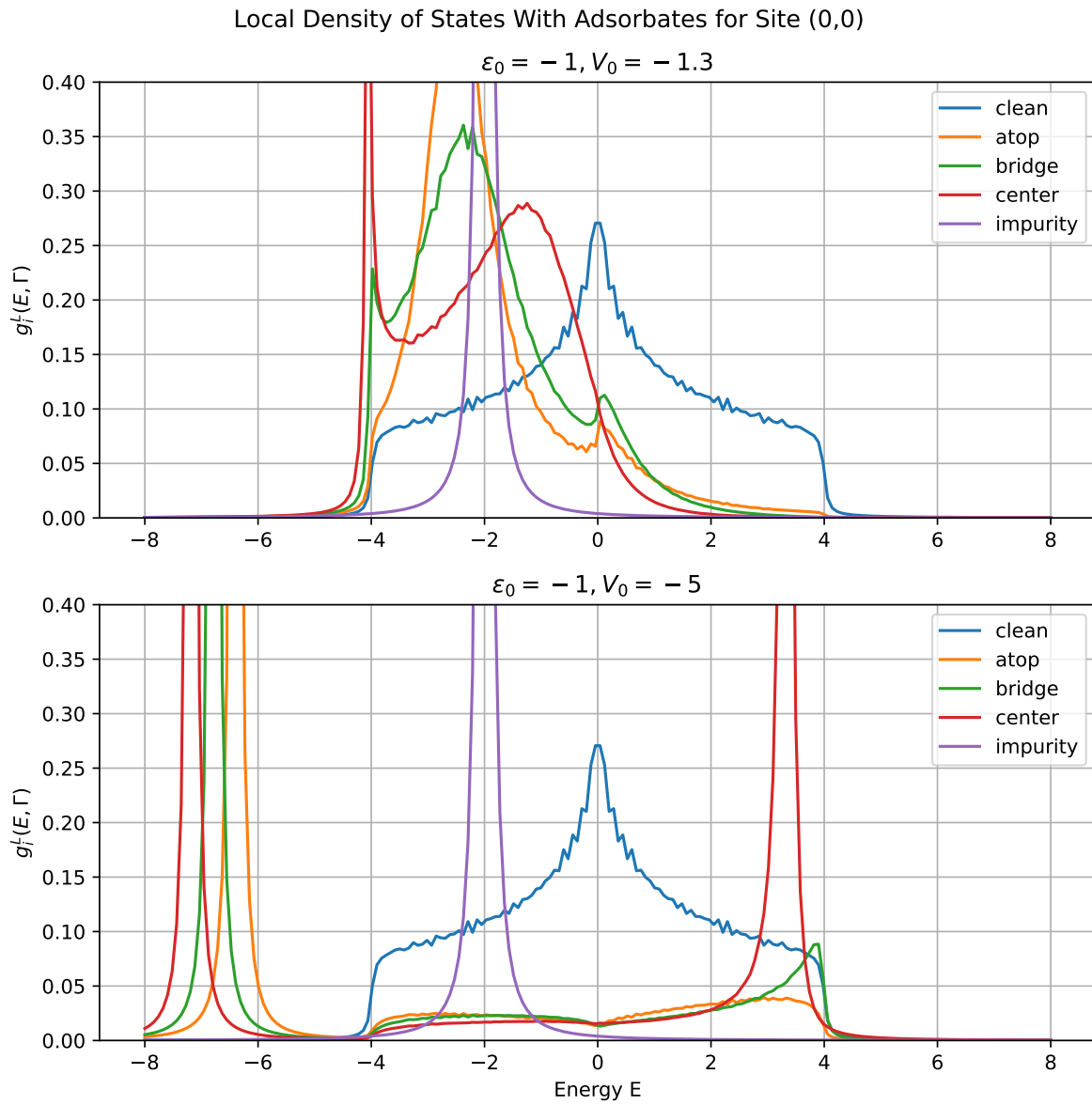## 2.1 Third problem

Figure 3: This figure...

2.2   Fourth problem

Local Density of States With Adsorbates for Site (0,0)

Figure 4: This figure...

Local Density of States With Adsorbates for Site (0,0)

Figure 5: This figure...