2.1. Introduction

2.1a. We have seen that the Schrodinger equation gets modified to

\[ E\psi = H\psi + \Sigma\psi + s \]

due to the connection to the contacts. The difference between \( H \) and \( \Sigma \) is that

a) Size of \( H \) depends on device, size of \( \Sigma \) depends on contact

b) \( H \) is a square matrix but \( \Sigma \) is not square

c) \( H \) is non-Hermitian while \( \Sigma \) is Hermitian

d) \( H \) is Hermitian while \( \Sigma \) is non-Hermitian

e) None of the above

2.1b. It is not correct to modify the Schrodinger equation to include a source term at contact 1 along with one at contact 2, to obtain

\[ E\psi = H\psi + \Sigma\psi + s_1 + s_2 \]

because

(a) It will falsely predict interference between the two sources

(b) It will miss the interference between sources

(c) It is not possible for two sources to act simultaneously

(d) Two sources will subtract, use \( s_1 - s_2 \) instead of \( s_1 + s_2 \)

(e) There is no problem, this is correct