## 1 Benchamrk week 5

Context:  $30 \times 15$  SC with open boundary conditions.

We have a phase gradient of 117°. Starting from  $\pi/2$ .  $T = 10^{-3} K$  and we iterrate until a relative change in both the real and imaginary part of  $\Delta$  reach 0.001%.

The way matlab deals with the eigenvectors and eigenvalues seams strange. So if we take  $\chi_n$  along with  $E_n$  like the theory does, the algorithm dosnt converge for: 1

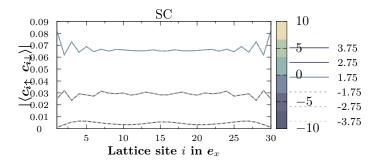


Figure 1

From this we can read the following parameters:  $\mu = \pm 1.75 - > 0.0651$ ,  $\mu = \pm 2.75 - > 0.02836$ ,  $\mu = \pm 3.75 - > 0.00568$ .

2

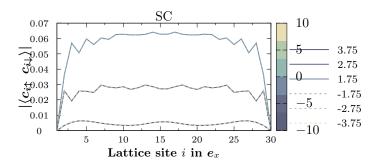


Figure 2