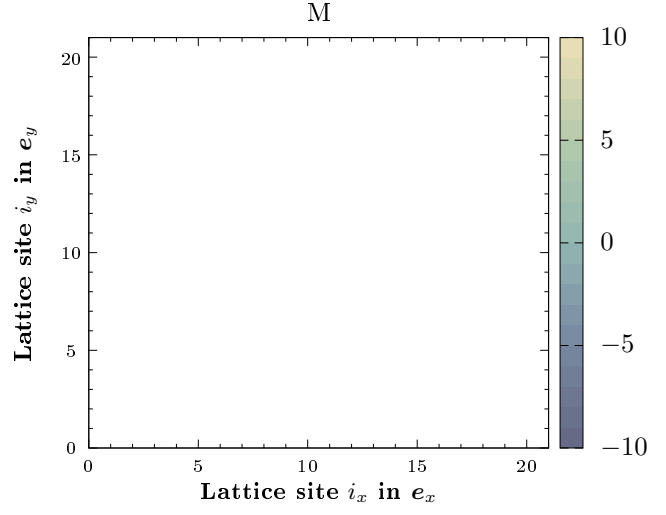
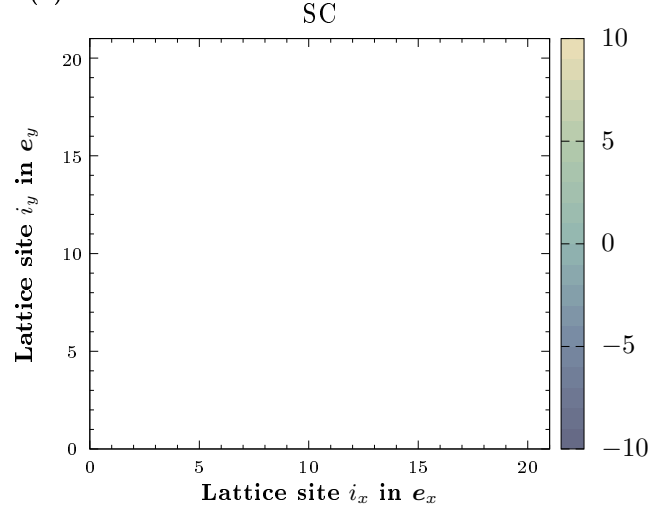


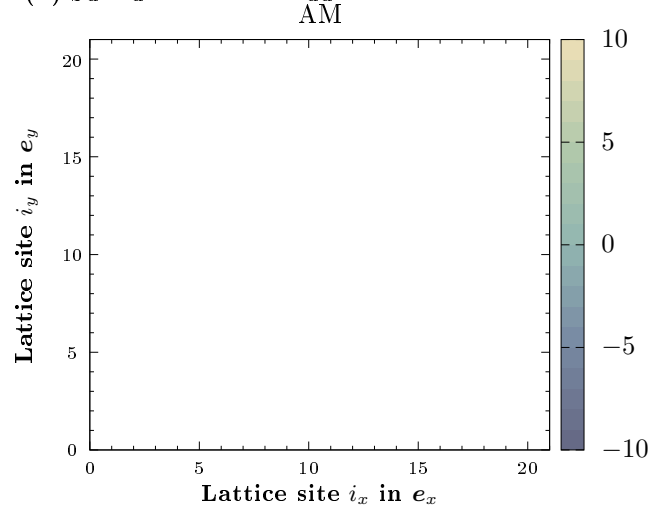
1 Benchmark



(a) Surrounded with vacuum.

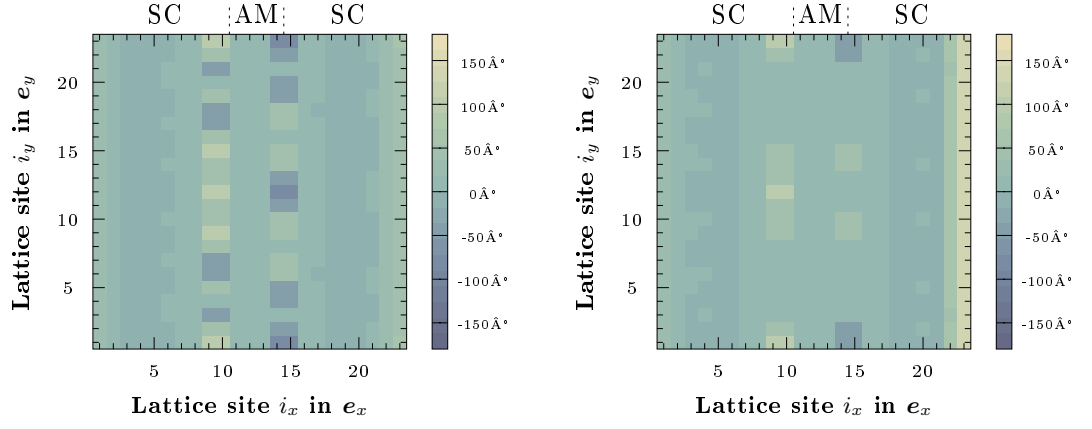


(b) Surrounded with vacuum.



(c) Surrounded with vacuum.

Figure 1: Benchmark for the currents $\sqrt{\langle I_i^x \rangle^2 + \langle I_i^y \rangle^2}$ in M, AM and SC



(a) Surrounded with vacuum. $\varphi = 27$ deg (b) Surrounded with vacuum. $\varphi = 27 + 90$ deg

Figure 2: Benchmark for the phase $\arg(\Delta)$ in an SC, AM, SC material. On the left most side we have $\Delta = |\Delta_{\text{guess}}|e^{i\frac{\pi}{6}}$ and on the right most side $\Delta = |\Delta_{\text{guess}}|e^{i(\frac{\pi}{6} + \varphi\frac{\pi}{180})}$

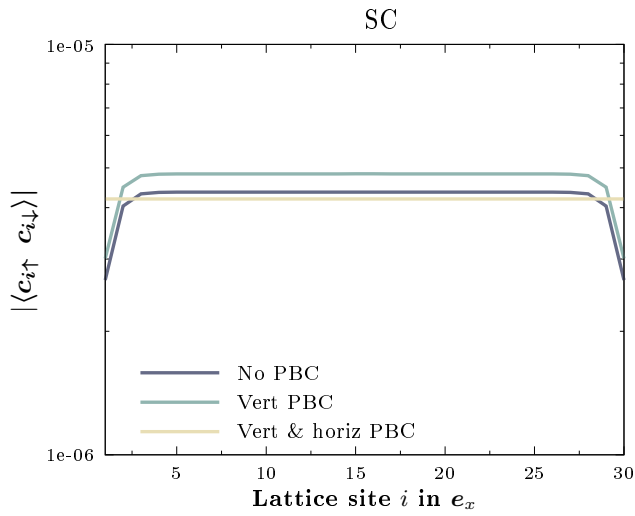


Figure 3: Mean value over the y -axis of the correlation function $|\langle c_{i\uparrow} c_{i\downarrow} \rangle|$ for different boundary conditions in a SC.

1.1 Current SC30

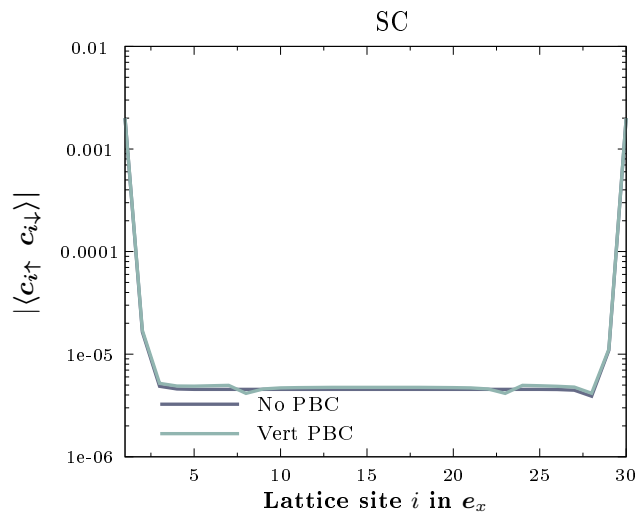
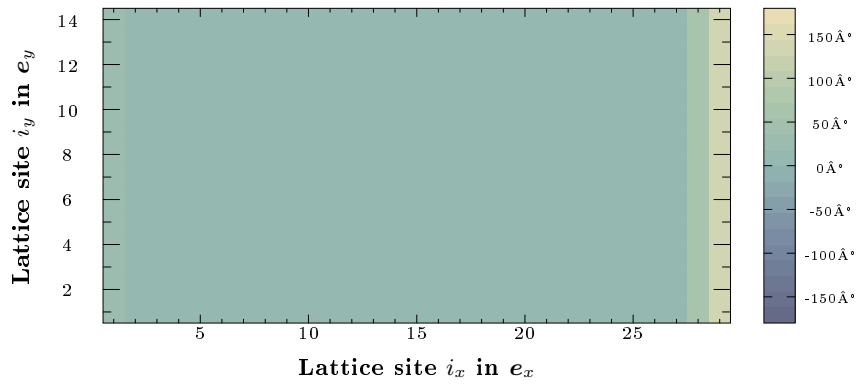
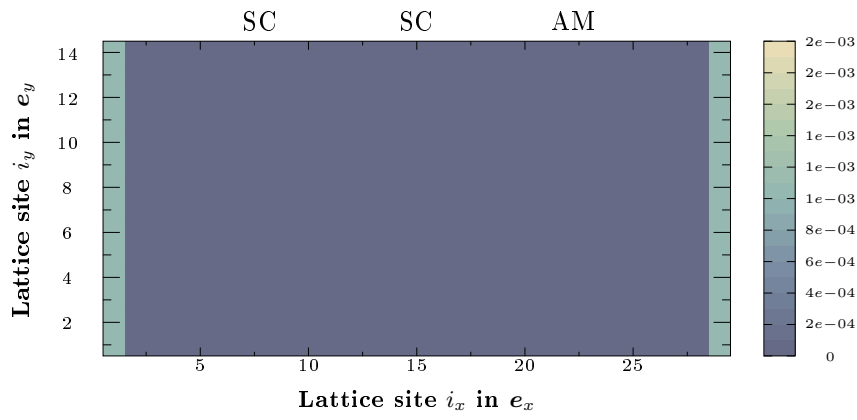


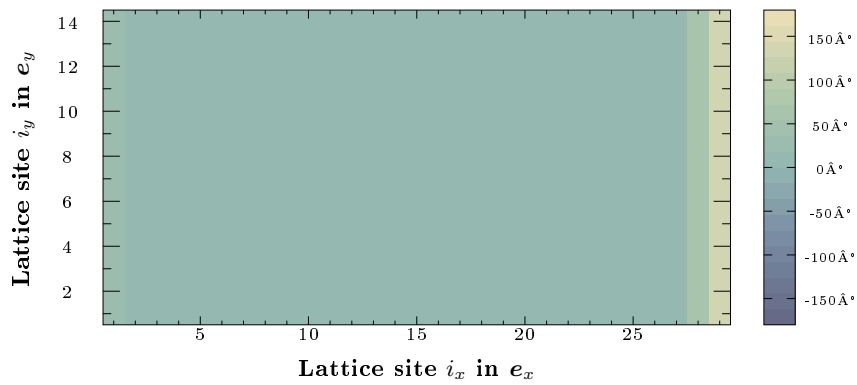
Figure 4: Mean value over the y -axis of the correlation function $|\langle c_{i\uparrow} c_{i\downarrow} \rangle|$ for different boundary conditions in a SC.



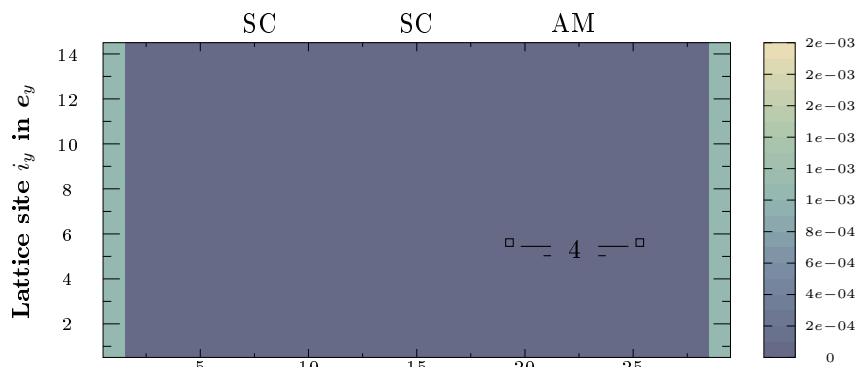
(a) Phase map. Surrounded with vacuum. $\varphi = 117$ deg



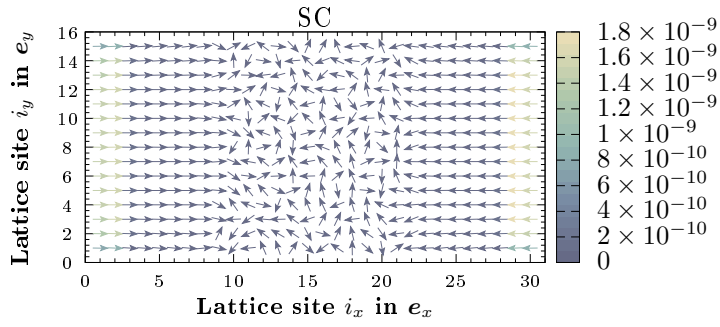
(b) Heat map. Surrounded with vacuum. $\varphi = 117$ deg



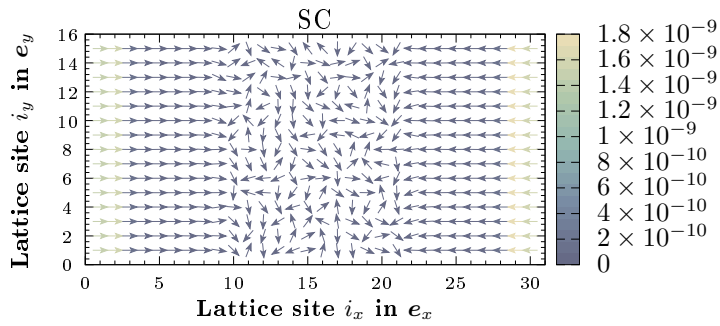
(c) Phase map. Vert BC.. $\varphi = 117$ deg



1.1.1 Litterature Model



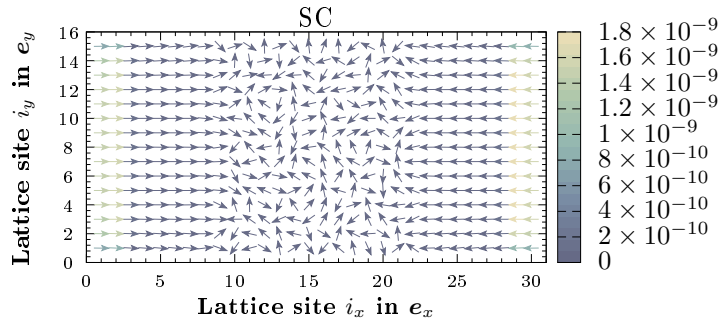
(a) Current map. Surrounded with vacuum. $\varphi = 117$ deg



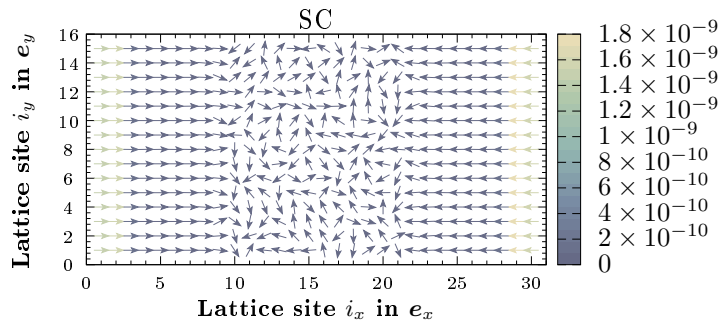
(b) Current map. Vert BC. $\varphi = 117$ deg

Figure 6: Current map for two different boundaries conditions according to literature model 1.

1.1.2 Litterature Model 2



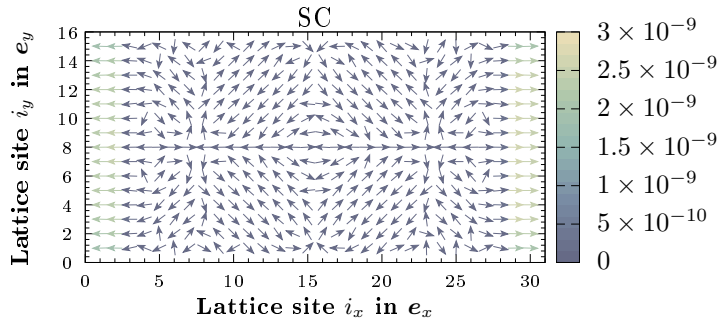
(a) Current map. Surrounded with vacuum. $\varphi = 117^\circ$



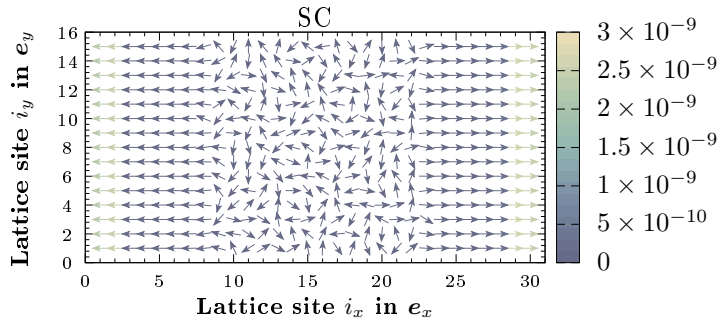
(b) Current map. Vert BC. $\varphi = 117^\circ$

Figure 7: Current map for two different boundaries conditions according to literature model 2.

1.1.3 Own Model



(a) Current map. Surrounded with vacuum. $\varphi = 117$ deg



(b) Current map. Vert BC. $\varphi = 117$ deg

Figure 8: Current map for two different boundaries conditions according to literature model 1.

1.2 Current SC15-M5-SC15

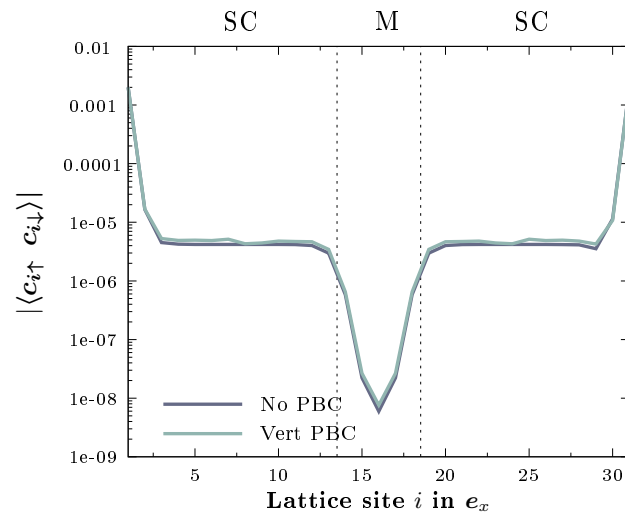
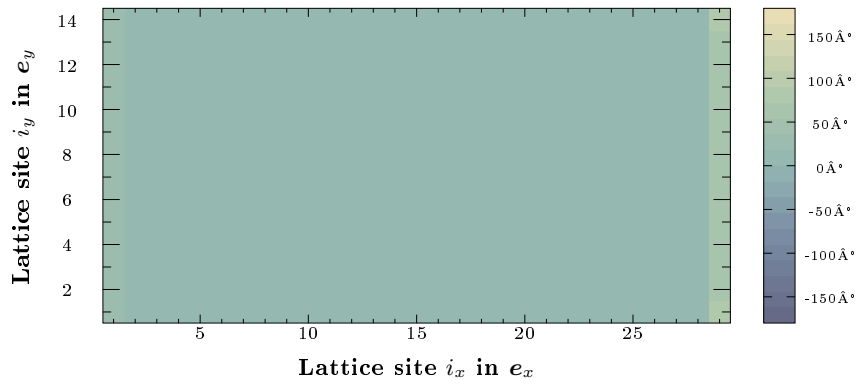
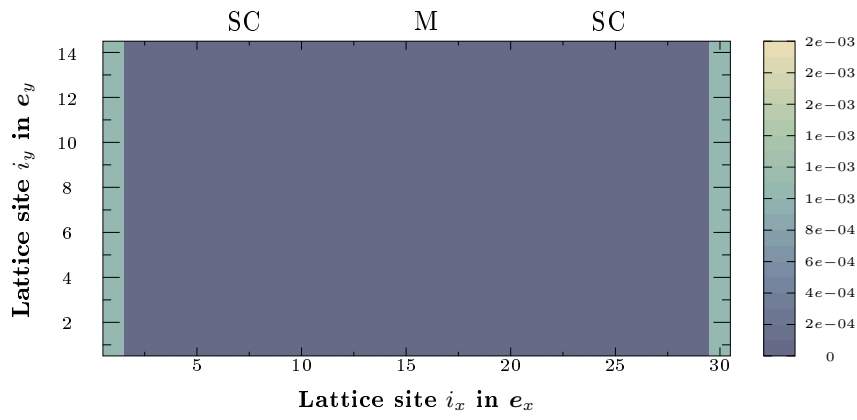


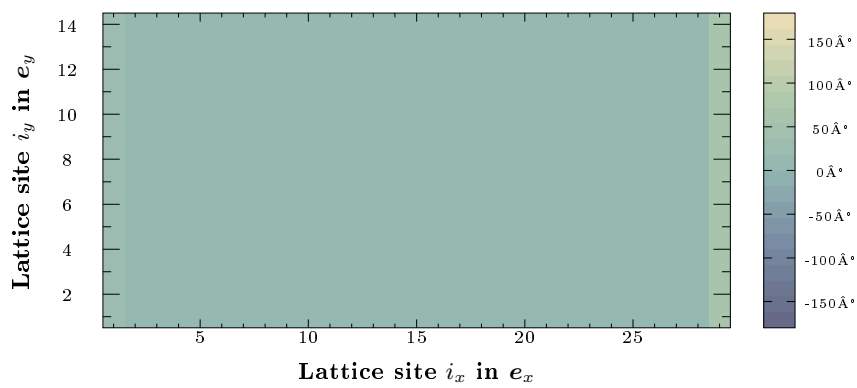
Figure 9: Mean value over the y -axis of the correlation function $|\langle c_{i\uparrow} c_{i\downarrow} \rangle|$ for different boundary conditions in a SC.



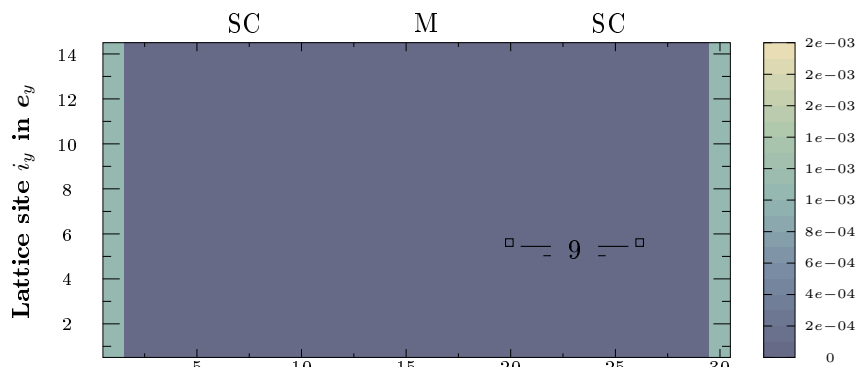
(a) Phase map. Surrounded with vacuum. $\varphi = 117 \text{ deg}$



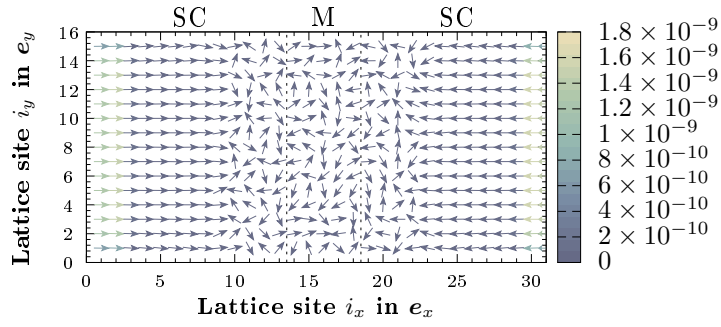
(b) Heat map. Surrounded with vacuum. $\varphi = 117 \text{ deg}$



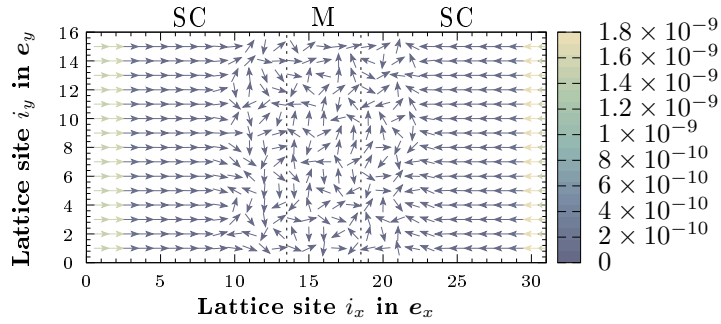
(c) Phase map. Vert BC.. $\varphi = 117 \text{ deg}$



1.2.1 Litterature Model



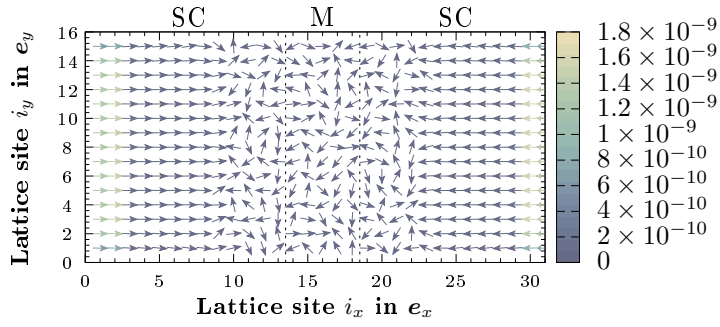
(a) Current map. Surrounded with vacuum. $\varphi = 117$ deg



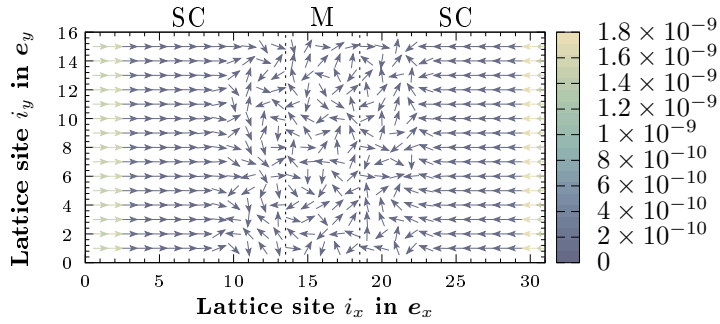
(b) Current map. Vert BC. $\varphi = 117$ deg

Figure 11: Current map for two different boundaries conditions according to literature model 1.

1.2.2 Litterature Model 2



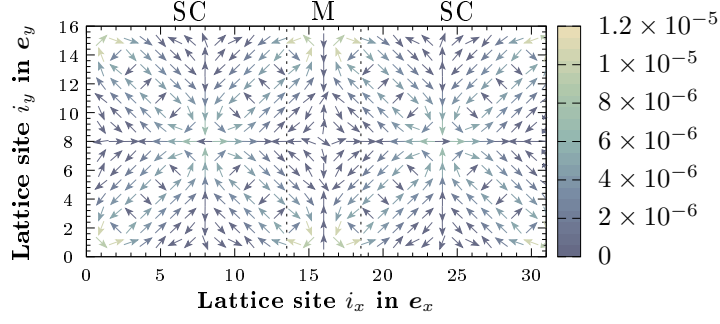
(a) Current map. Surrounded with vacuum. $\varphi = 117$ deg



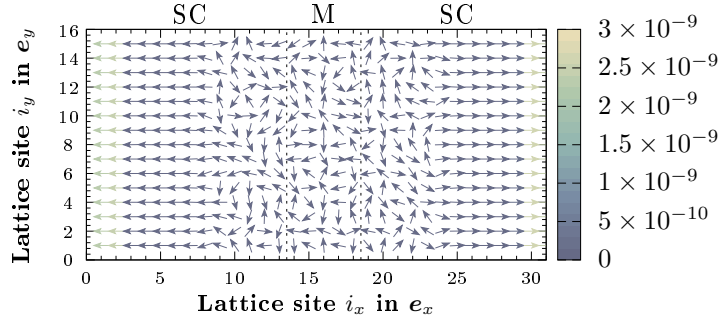
(b) Current map. Vert BC. $\varphi = 117$ deg

Figure 12: Current map for two different boundaries conditions according to litterature model 2.

1.2.3 Own Model



(a) Current map. Surrounded with vacuum. $\varphi = 117$ deg



(b) Current map. Vert BC. $\varphi = 117$ deg

Figure 13: Current map for two different boundaries conditions according to literature model 1.