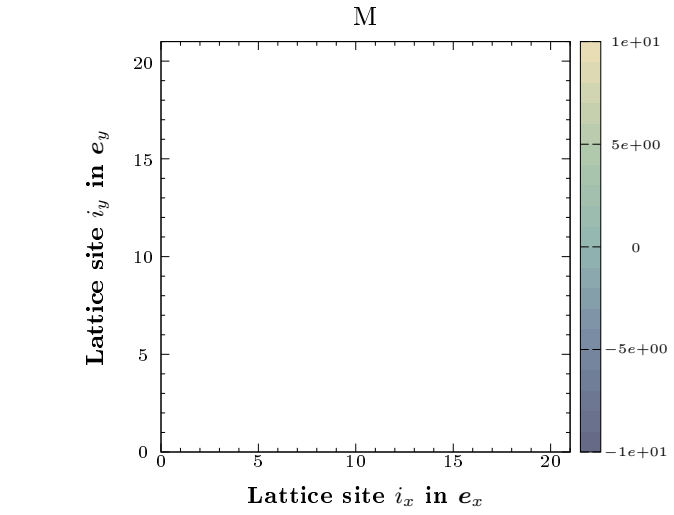
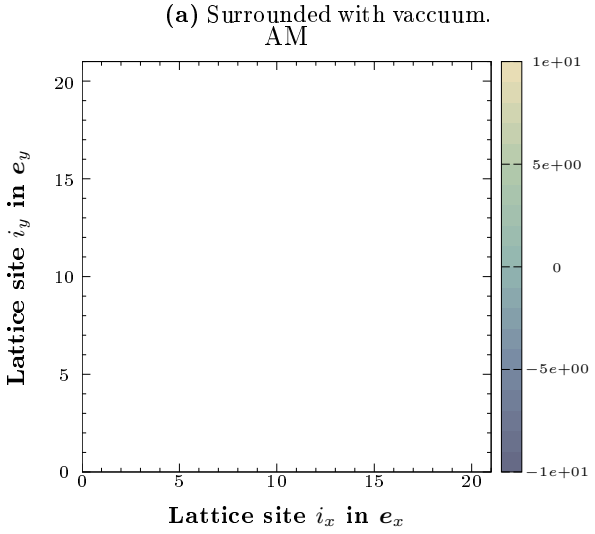
1 Benchmark

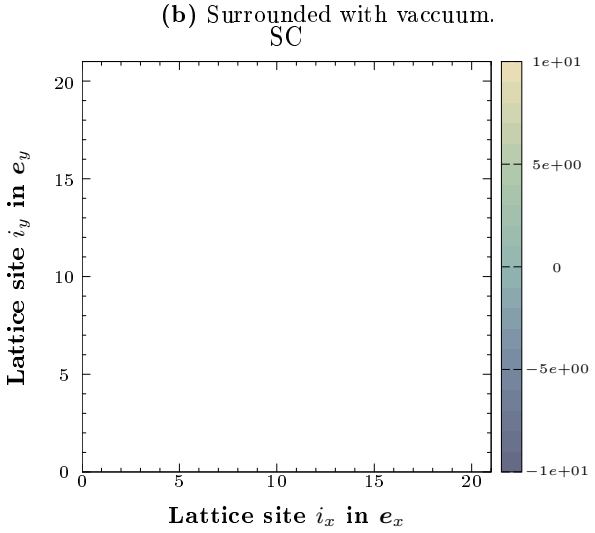
1.1 Current M20, AM20, SC20



(a) Surrounded with vaccuum.



(b) Surrounded with vaccuum.



(c) Surrounded with vaccuum.

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

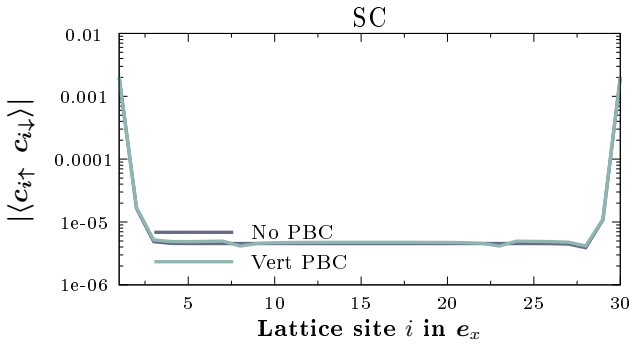
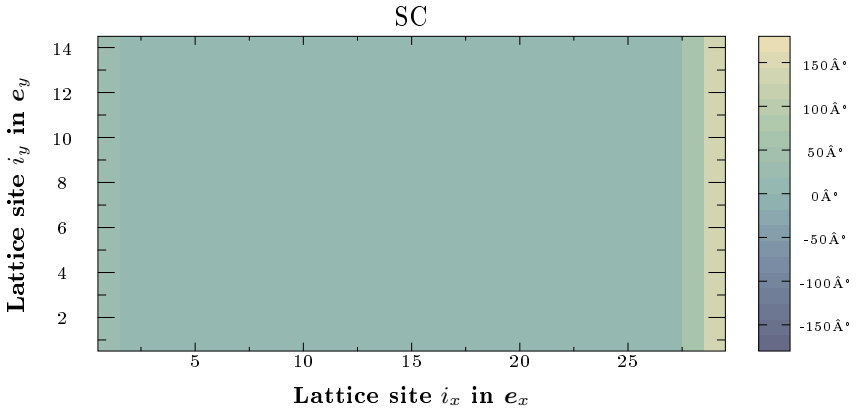
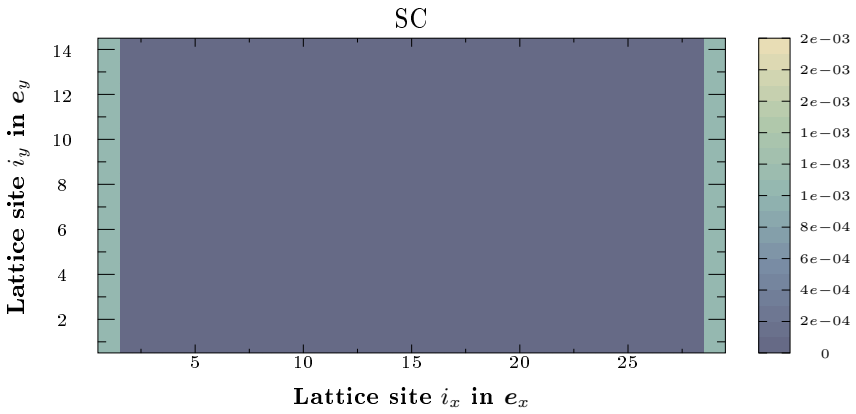


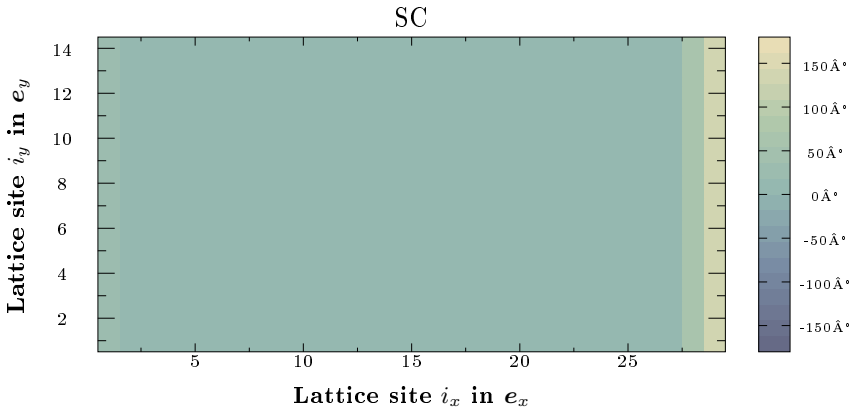
Figure 2: Mean value over the y-axis of the correlation function $|\langle c_{i\uparrow}c_{i\downarrow}\rangle|$ for different boundary conditions in a SC.



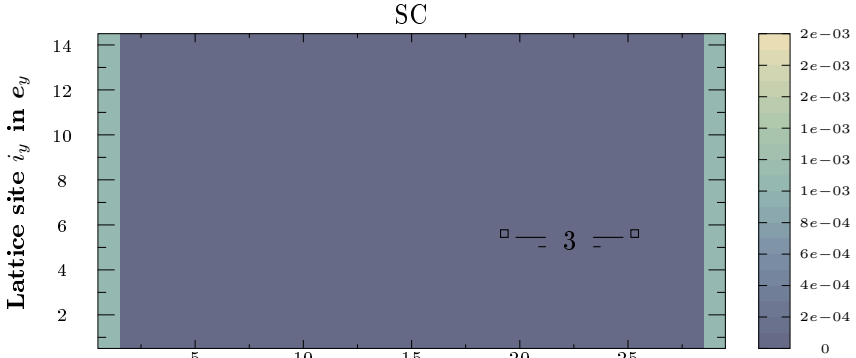
(a) Phase map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



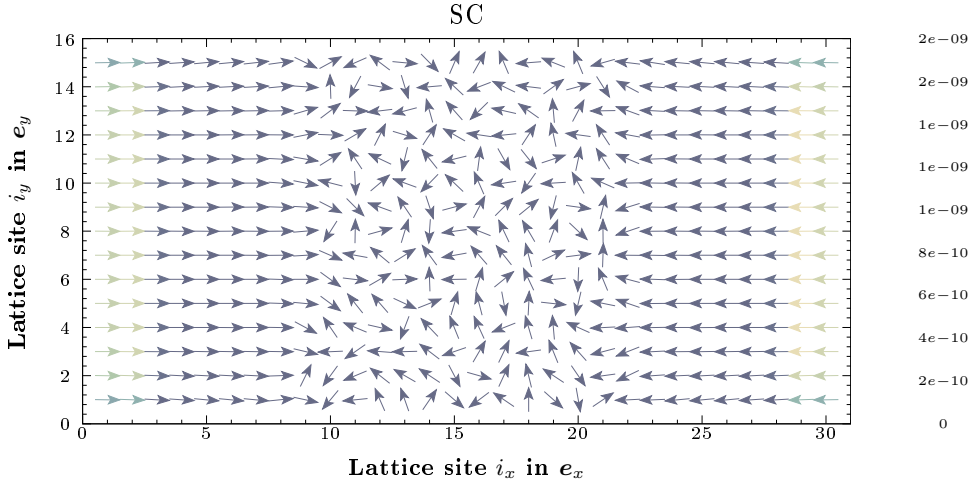
(b) Heat map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



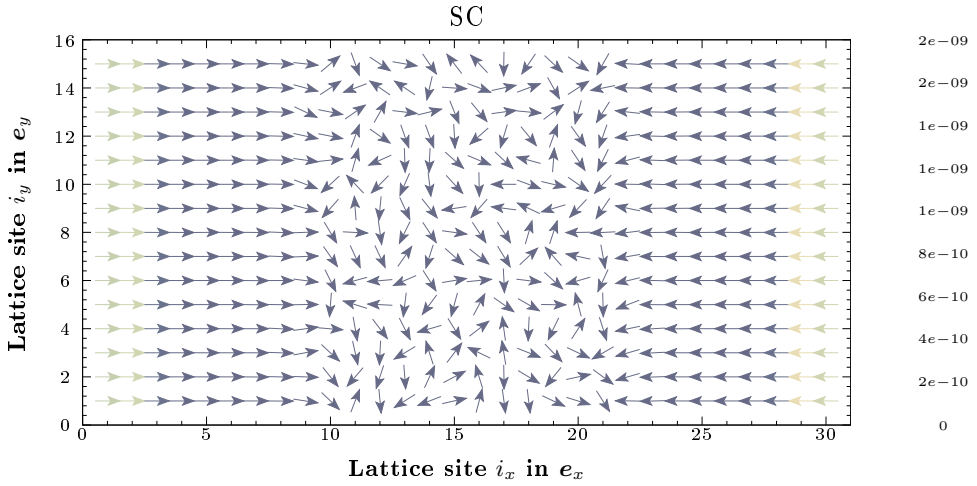
(c) Phase map. Vert BC.. $\varphi = 117\,\mathrm{deg}$



1.1.1 Litterature Model



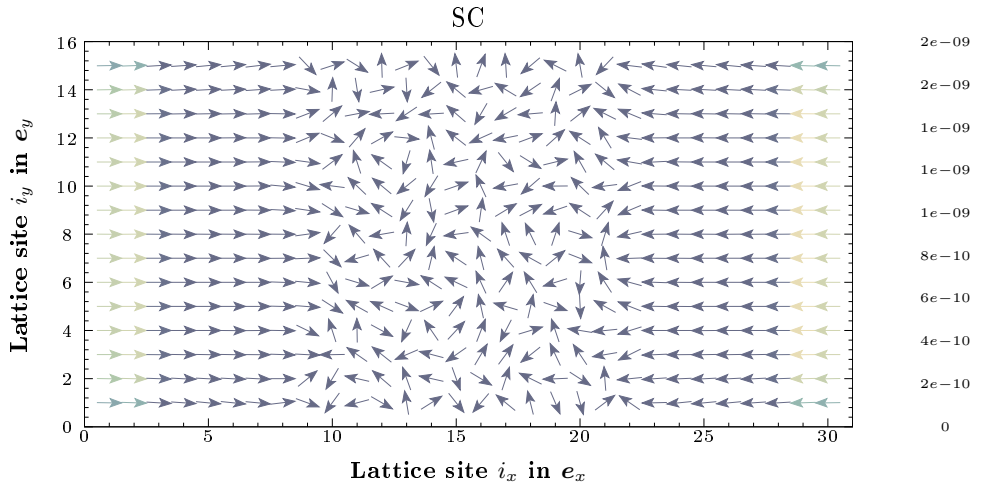
(a) Current map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



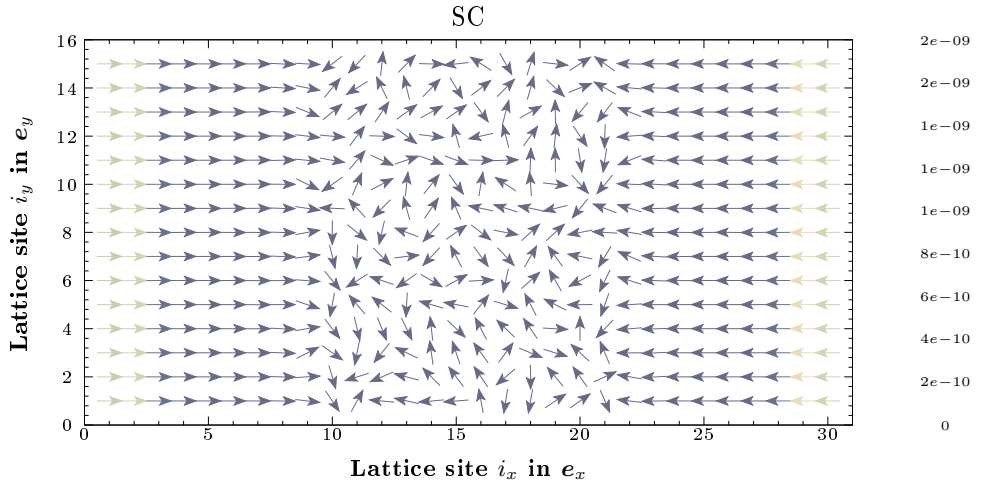
(b) Current map. Vert BC. $\varphi = 117\,\mathrm{deg}$

Figure 4: Current map for two different boundaries conditions according to literature model 1.

1.1.2 Litterature Model 2



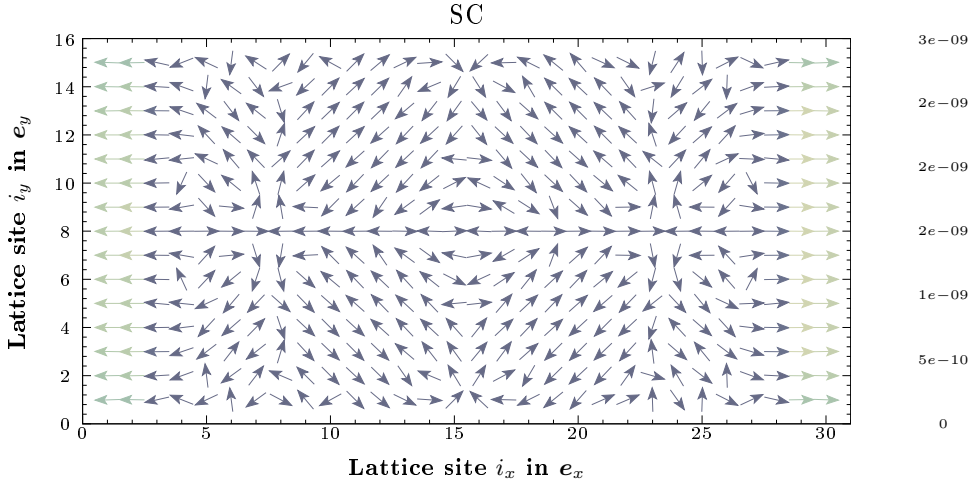
(a) Current map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



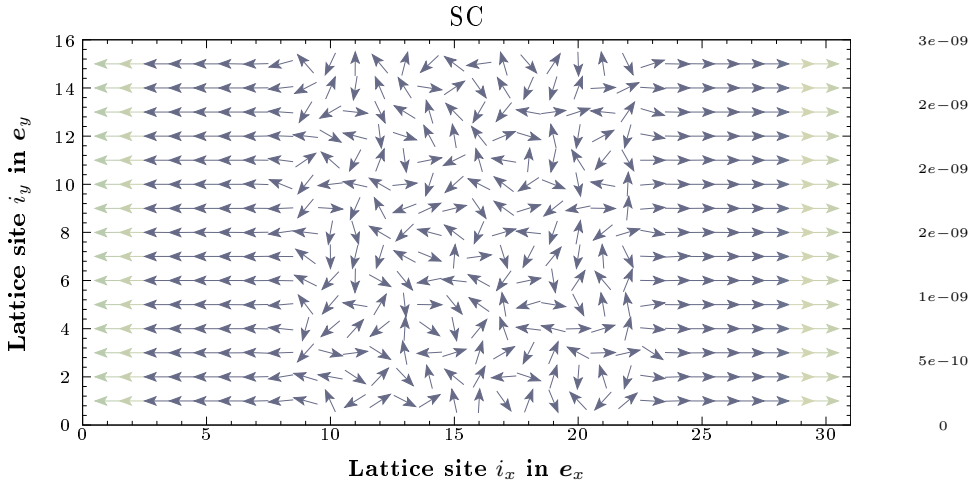
(b) Current map. Vert BC. $\varphi = 117\,\mathrm{deg}$

Figure 5: Current map for two different boundaries conditions according to literature model 2.

1.1.3 Own Model



(a) Current map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



(b) Current map. Vert BC. $\varphi = 117\,\mathrm{deg}$

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

1.2 Current SC13-M5-SC13

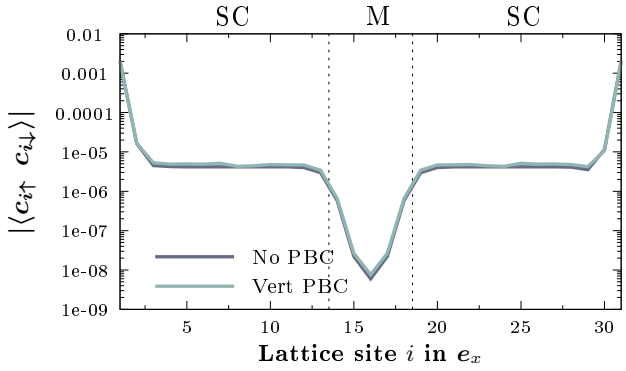
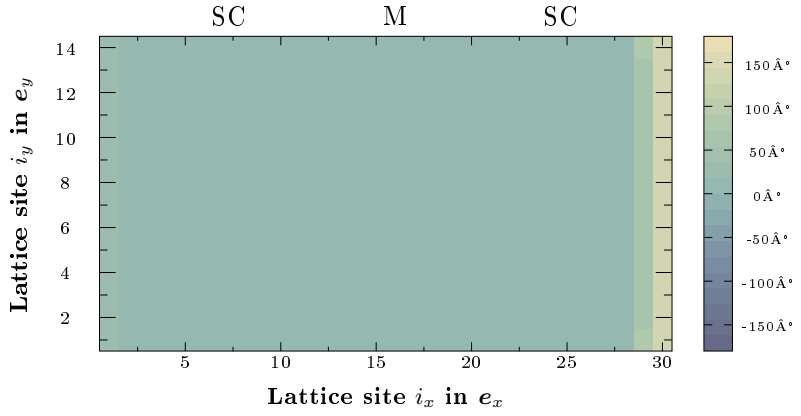
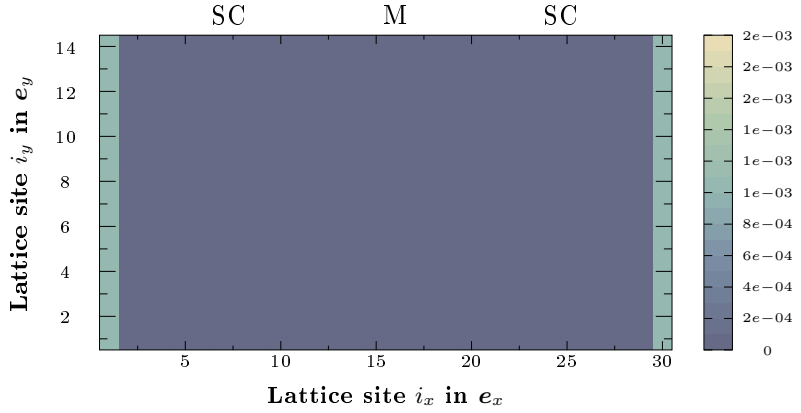


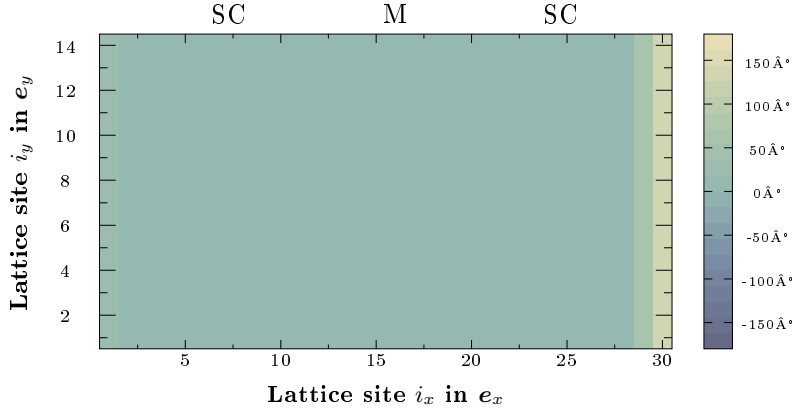
Figure 7: Mean value over the y-axis of the correlation function $|\langle c_{i\uparrow} c_{i\downarrow}\rangle|$ for different boundary conditions in a SC.



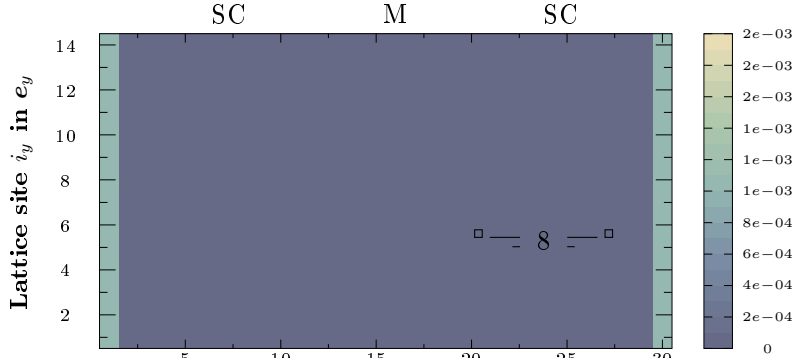
(a) Phase map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



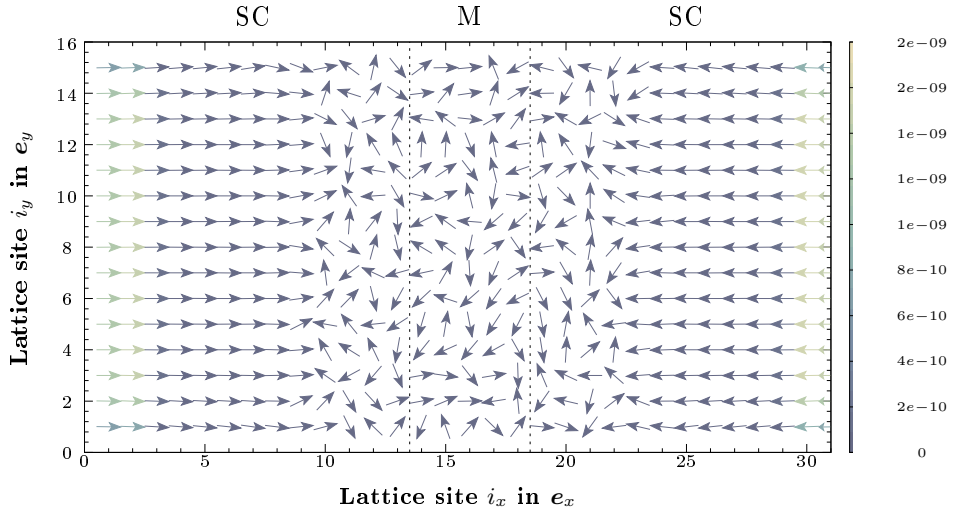
(b) Heat map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



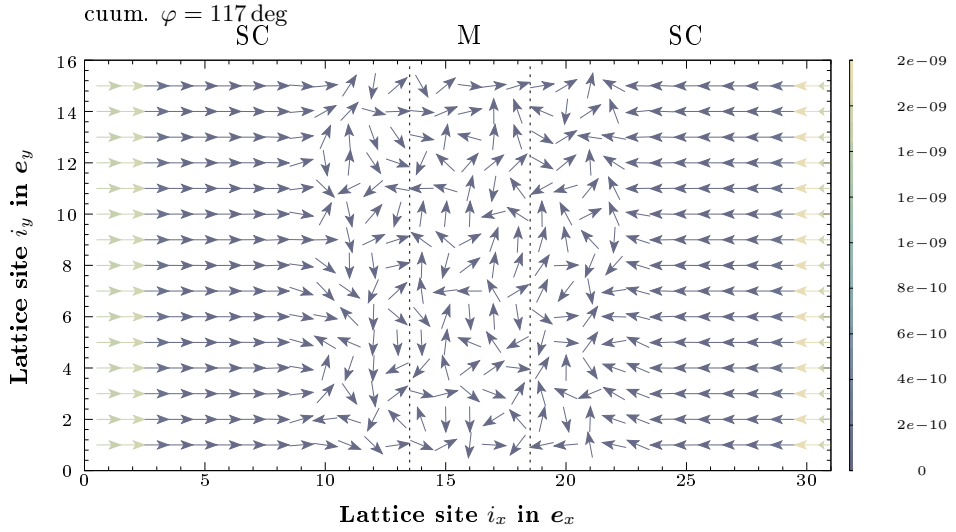
(c) Phase map. Vert BC.. $\varphi = 117\,\mathrm{deg}$



1.2.1 Litterature Model



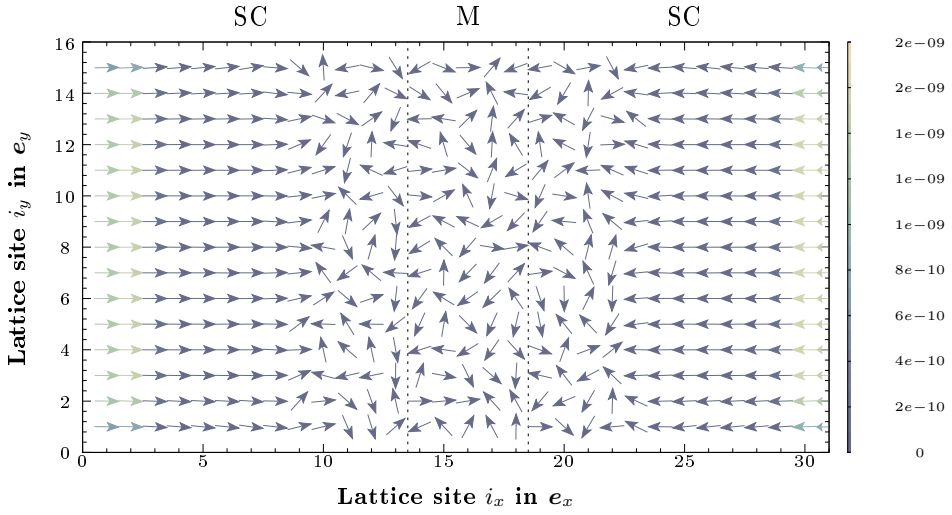
(a) Current map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



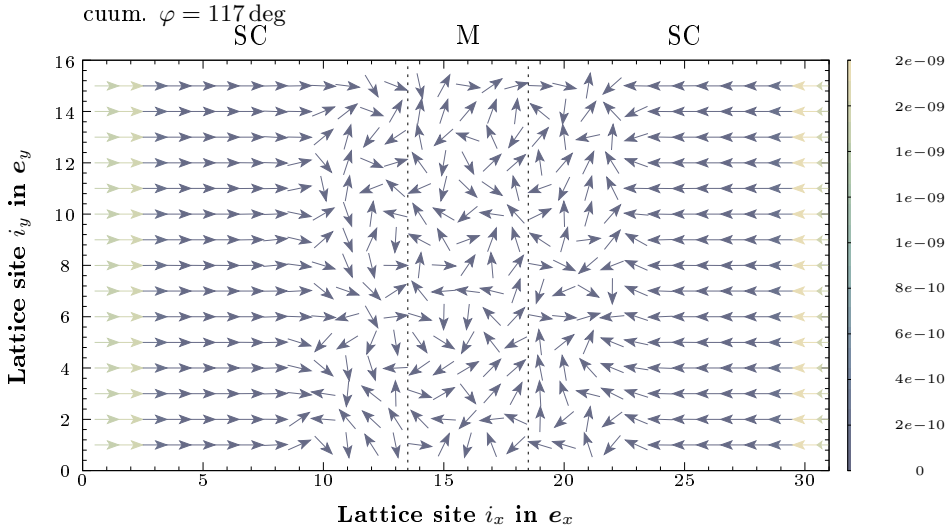
(b) Current map. Vert BC. $\varphi = 117\,\mathrm{deg}$

Figure 9: Current map for two different boundaries conditions according to literature model 1.

1.2.2 Litterature Model 2



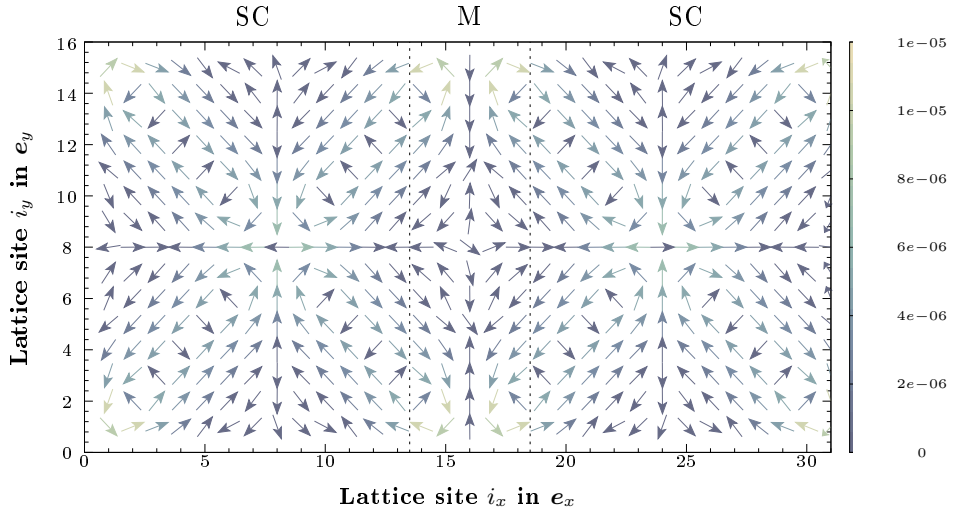
(a) Current map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



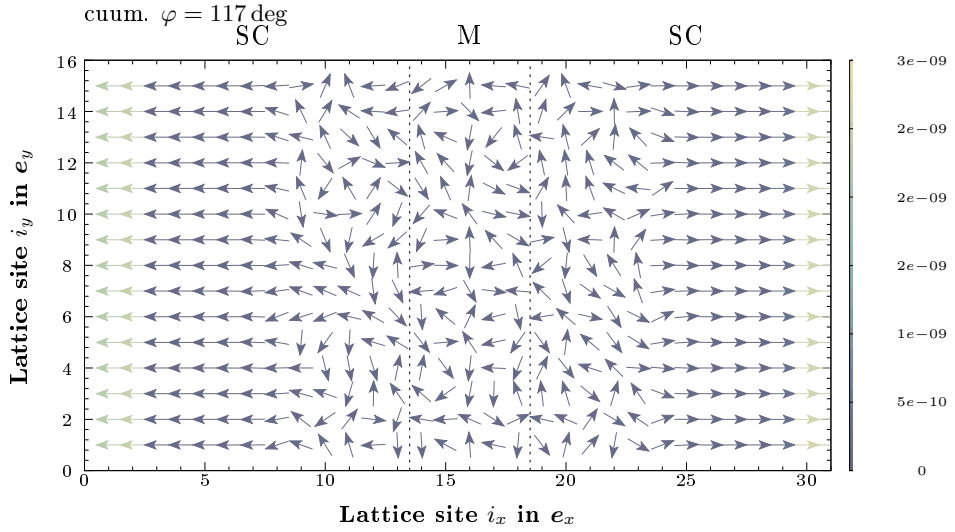
(b) Current map. Vert BC. $\varphi = 117\,\mathrm{deg}$

Figure 10: Current map for two different boundaries conditions according to literature model 2.

1.2.3 Own Model



(a) Current map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



(b) Current map. Vert BC. $\varphi = 117\,\mathrm{deg}$

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

1.3 Current SC13-AM5-SC13

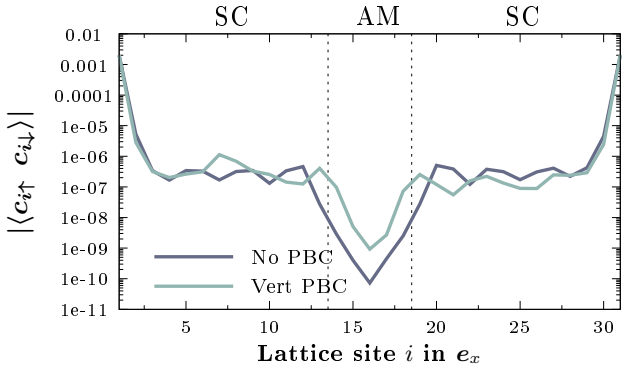
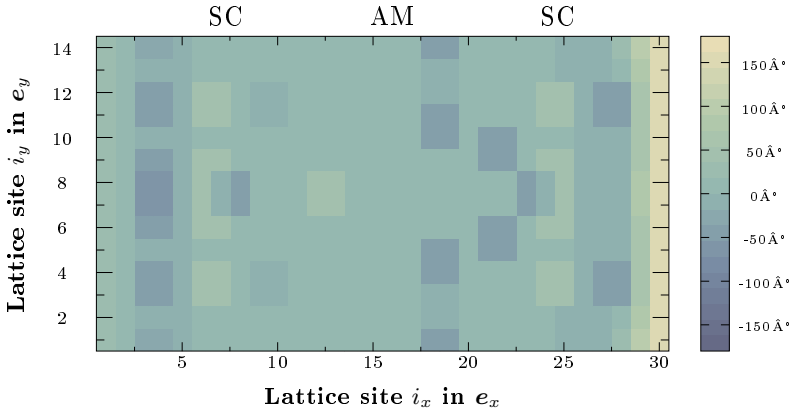
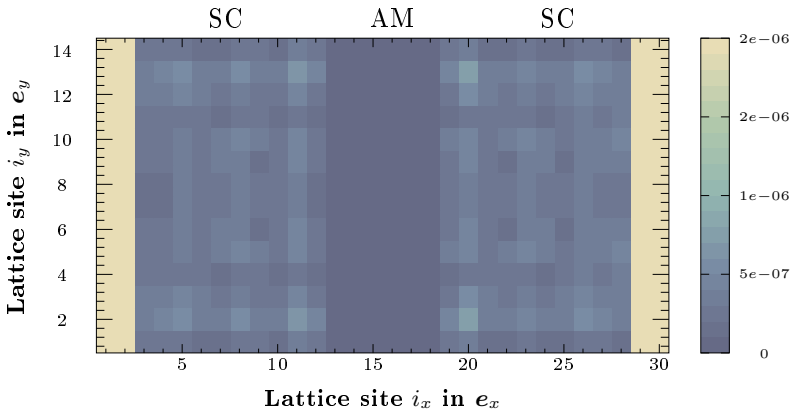


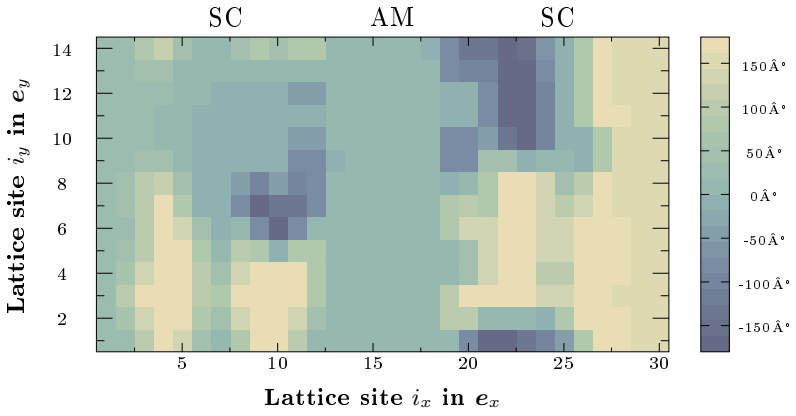
Figure 12: Mean value over the y-axis of the correlation function $|\langle c_{i\uparrow} c_{i\downarrow}\rangle|$ for different boundary conditions in a SC.



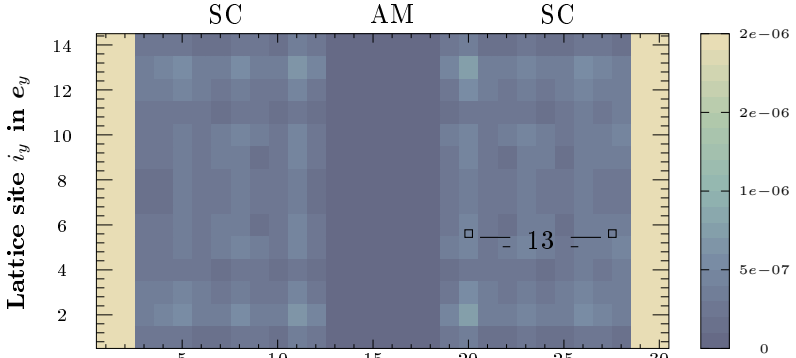
(a) Phase map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



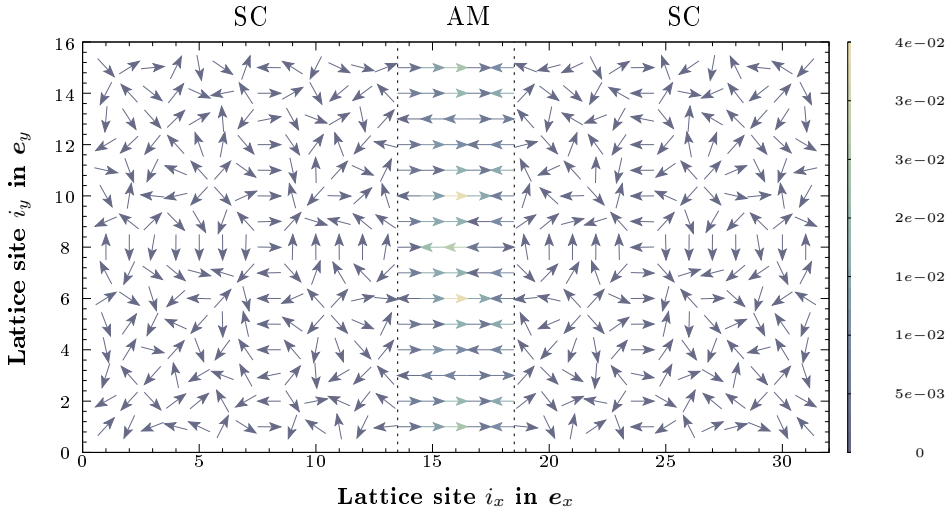
(b) Heat map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



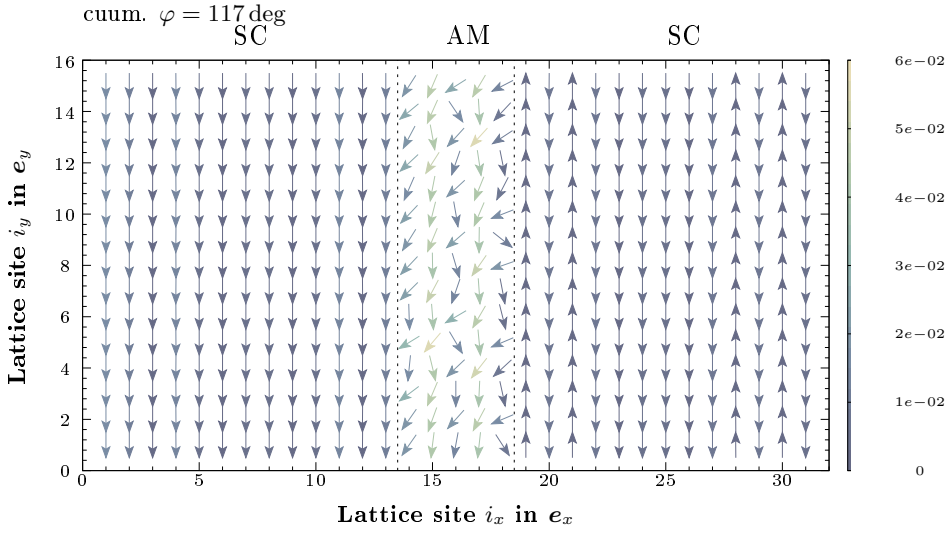
(c) Phase map. Vert BC.. $\varphi = 117\,\mathrm{deg}$



1.3.1 Litterature Model



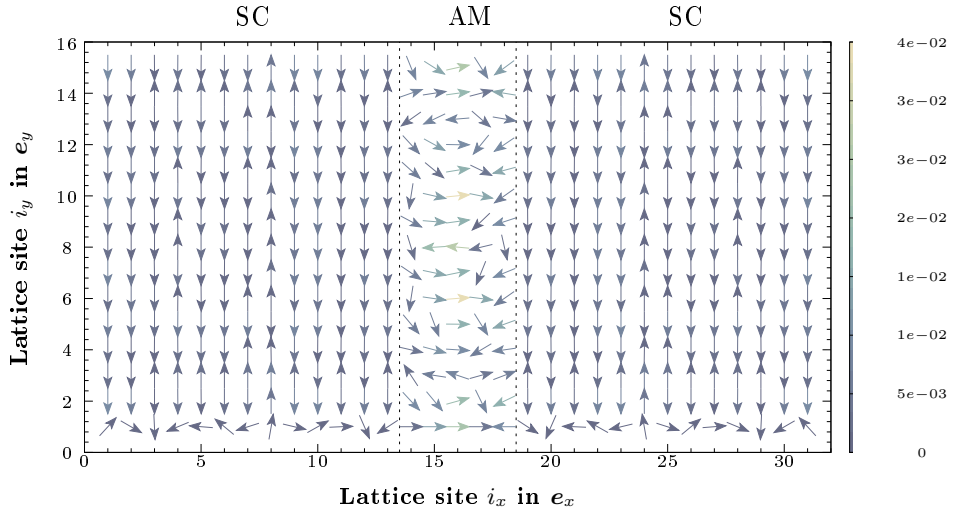
(a) Current map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



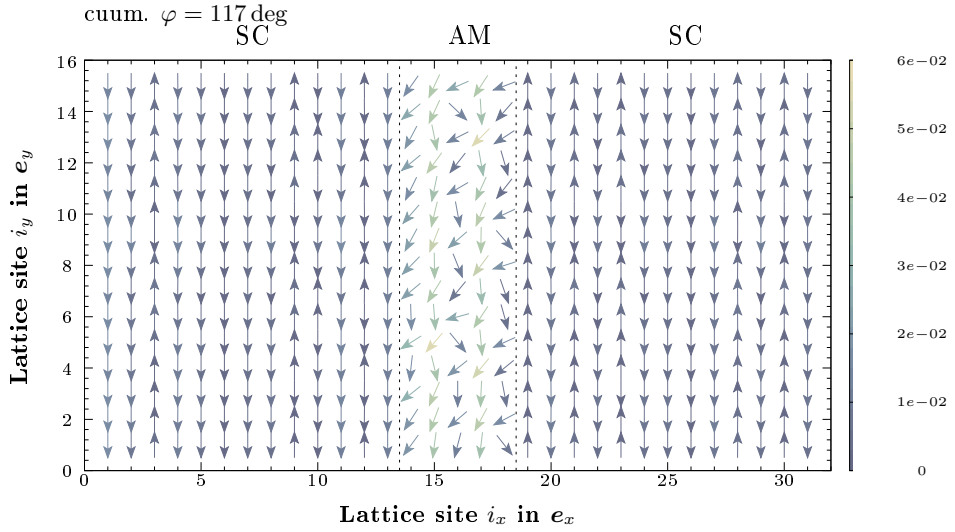
(b) Current map. Vert BC. $\varphi = 117\,\mathrm{deg}$

Figure 14: Current map for two different boundaries conditions according to literature model 1.

1.3.2 Litterature Model 2



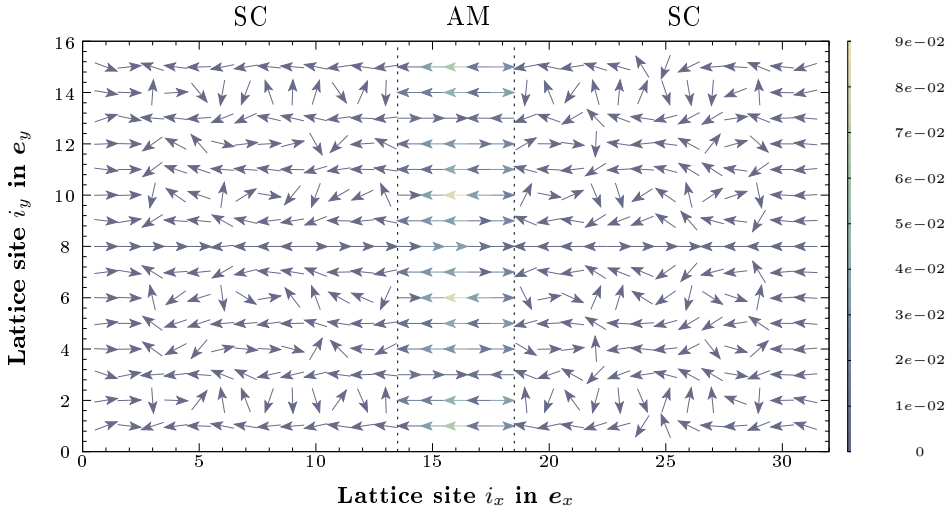
(a) Current map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



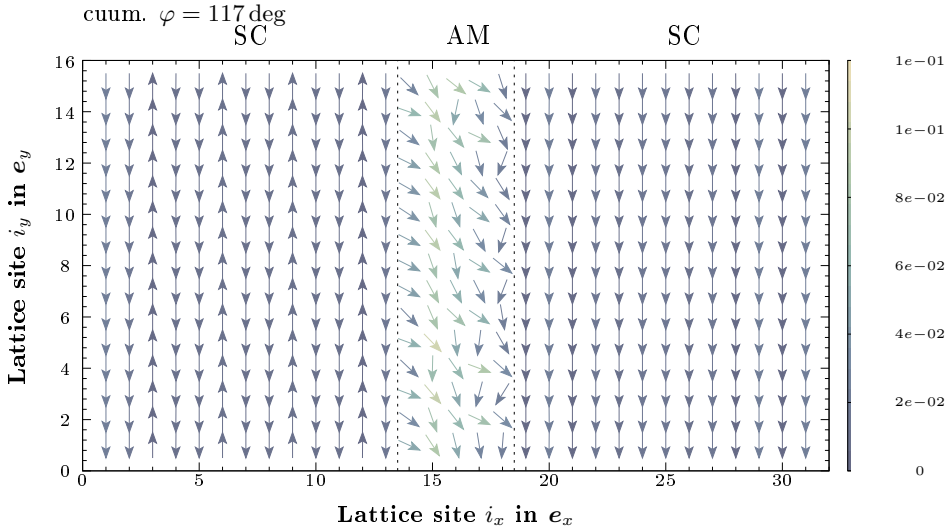
(b) Current map. Vert BC. $\varphi = 117\,\mathrm{deg}$

Figure 15: Current map for two different boundaries conditions according to literature model 2.

1.3.3 Own Model



(a) Current map. Surrounded with vacuum. $\varphi = 117\,\mathrm{deg}$



(b) Current map. Vert BC. $\varphi = 117\,\mathrm{deg}$

Figure 16: Current map for two different boundaries conditions according to literature model 1.