Kwant project

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Week 3: march 4. - march 10.

2019/03/06

1 Schedule for the semester

Table 1: Original schedule

Week	Scheduled Task
feb. 18. - feb. 24.	Installing Kwant & Running an example
feb. 25. - mar. 3.	Reading the documentation & Running more examples
mar. 4 - mar. 10	~~Reading theory of 2DEG & Writing a 2DEG calculation~~
mar. 11. - mar. 17.	~~2DEG constriction in a magnetic field~~
mar. 18. - mar. 24.	~~Graphene focusing~~
mar. 25. - mar. 31.	Mid term report
apr. 1. - apr. 7.	Topological Anderson Insulator/ Majorana fermion 1.
apr. 8. - apr. 14.	Topological Anderson Insulator/ Majorana fermion 2.
easter holiday	-
apr. 22. - apr. 28.	Topological Anderson Insulator/ Majorana fermion 3.
apr. 29. - may 5.	Topological Anderson Insulator/ Majorana fermion 4.
Eötvös/Pázmány days	-
may 13. - may 19.	Final report

Table 2: Updated schedule

Week	Scheduled Task
feb. 18. - feb. 24.	Installing Kwant & Running an example
feb. 25. - mar. 3.	Reading the documentation & Running more examples
mar. 4 - mar. 10	Graphene minimal conductivity 1.
mar. 11. - mar. 17.	Graphene minimal conductivity 2.
mar. 18. - mar. 24.	2DEG constriction
mar. 25. - mar. 31.	Mid term report
apr. 1. - apr. 7.	Topological Anderson Insulator/ Majorana fermion 1.
apr. 8. - apr. 14.	Topological Anderson Insulator/ Majorana fermion 2.
easter holiday	-
apr. 22. - apr. 28.	Topological Anderson Insulator/ Majorana fermion 3.
apr. 29. - may 5.	Topological Anderson Insulator/ Majorana fermion 4.
Eötvös/Pázmány days	-
may 13. - may 19.	Final report

2 Graphene minimal conductivity

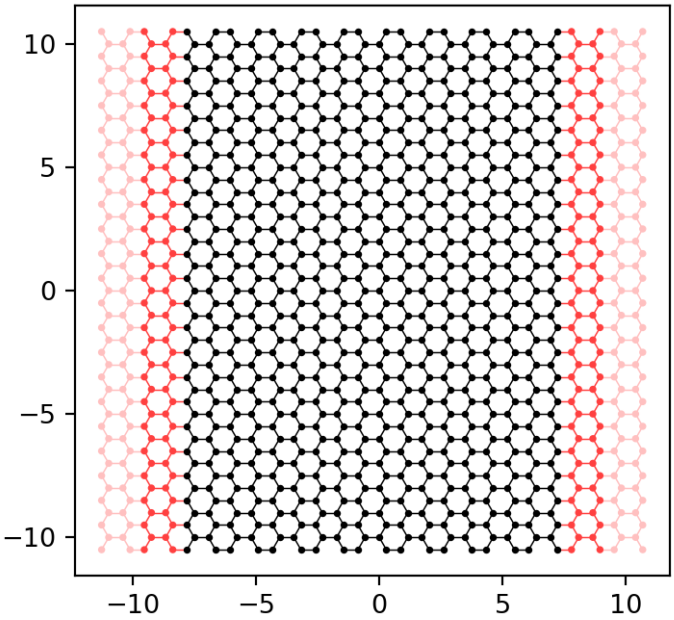

Figure 1: A strip of graphene of width $W = 22$ units and length $L = 14$ units. Attached leads are shown in red.

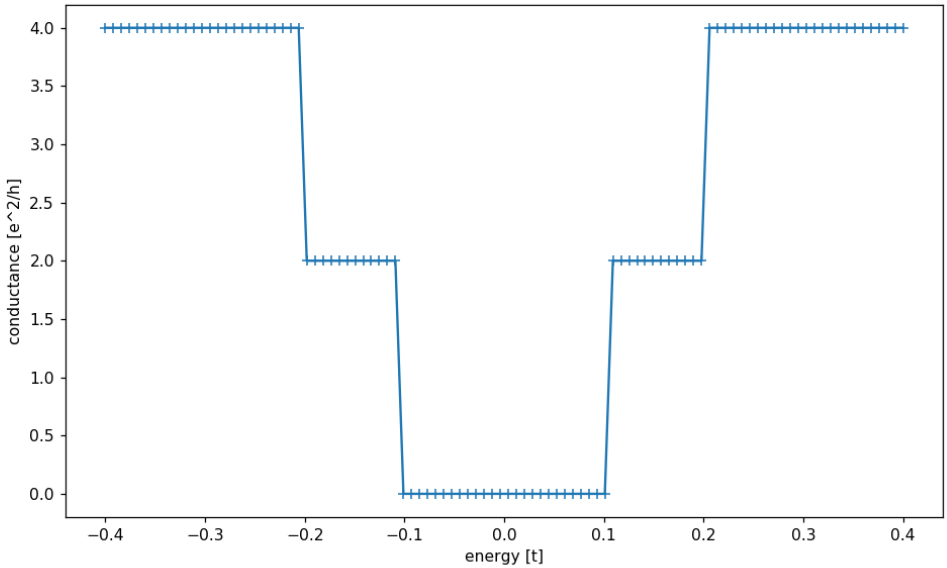

Figure 2: Conductance plot for a graphene strip assuming $E_F = 0$ Fermi energy.