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The numerical program « Kwant » is a great tool to simulate physical quantum systems. I am now using it regularly for one year. It has started with the writing of my ERC starting grant project COHERGAPH when I needed to simulate the experiments I proposed to confirm theoretically its feasibility. It consists of an electronic interferometer in graphene, and Kwant is a perfect tool to simulate that type of systems. I joined these simulations to my ERC project and I am convinced that it helped for its evaluation.

My ERC project has started last month, and together with a colleague in theory we continue simulating experiments in graphene: first, this provides new insights for experimentalists but it enables to be more efficient in the design of the samples. Kwant is a wonderful platform where experimentalists and theorists have the same language.

Finally Kwant is written in python, and python is getting more and more popular among experimentalists to control experiments. We have recently decided to switch to full python programs to acquire datas, and I plan to integrate Kwant to these acquisition program to realize real time acquisition/treatment of the data.

To conclude, Kwant is a fantastic program for experimentalists and I am convinced that in a next future it would become unavoidable before designing experiments.

Best regards

Preden ROULLEAU



European Research Council

A handwritten signature in black ink, appearing to read 'Preden Roulleau', written in a cursive style.