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To whom it may concern.

It is my pleasure to write this letter of support for the Kwant project. The activity of my group is focused around low temperature, low noise and high frequency measurements of quantum nanoelectronics devices. I came across Kwant a few years ago at a time when we had internal controversies about the interpretation of a set of experiments on a flying qubit sample made in a GaAs/GaAlAs high mobility heterostructure. I assigned one student, Tobias Bautze, to the task of modeling the experiments. Very quickly Tobias and other students of the group were able to master the software and to start simulating the experiments. After reproducing the gross features of the data, Tobias decided to refine the model (describing precisely the shape of the gate geometry) so that in fine it was very hard to make the difference between the experimental data and the simulated ones [you can see for yourself in Phys. Rev. B **89**, 125432 (2014)]. The approach has been so convincing that we have now taken it a step further: when a new sample is designed, we first simulate it directly from the GDS file (the file format which is given to the e-beam lithography machine) and modify the design until the « virtual » sample works properly. Only then do we go to the clean room and start making a real sample. This approach, which is now used for all the samples made in my group, has lead to an important increase in our productivity. For instance, for the flying qubit experiment, we have been able to improve the sample design to increase the visibility of the interference from 4% to almost 20%.

Overall, Kwant is really a great project. Proper theory & simulations is vital for the kind of sophisticated experiments that I perform in my group. Kwant has empowered us with a tool which is very flexible, robust, has an easy learning curve and great computational capabilities, I can only hope that it gets extended to include more physics within its range. Initiatives like Kwant have a great impact in the field and should really be promoted at the national and E.U. level.



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