

I want to simulate problem X

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My Computational Physics class for some 20 beginning graduate students has a project component. It is relatively easy to find simulation projects loosely connected to one's research area. I can easily propose projects on atomistic simulations of condensed matter or statistical physics that are relevant, interesting and can be completed with the appropriate effort.

In my (idealistic or crazy) attempts to extend Computational Physics education in our department beyond "my areas", my recent computational physics classes have included students from areas such as relativity, optics, plasma physics and types of quantum physics. These topics fall outside of my expertise in either topic or algorithm (or both). The students (not unreasonably) expect projects in these areas. In some cases their supervisors hope said projects will jumpstart a computational component in their research groups, a challenge I cannot refuse. I also enjoy beginning new directions. I will present some of these projects, and describe our pitfalls and successes.