ELEG 667-010 - Advanced Nanostructure Devices – Fall 2006
Homework #8 - due Monday, 27 November 2006, in class

Please go to www.nanoHUB.org and request a login and create an account. Use the "Sign up for an account" link in the upper-right corner of the site page. Make up a login name and a password, and fill in your email address. The system will send you email to confirm your account, and you'll have to click a link in the message to activate your account.

The Monte Carlo tool is public on the nanoHUB. it is called "DEMONs" and is functional. You may need to go to the tool index and look for "DEMONs" and fire it up and play with it.

1. Using the Monte Carlo simulator DEMONs on the Purdue nanoHUB site for Silicon, calculate and record the velocity v, and average electron energy u vs. $\mathcal{E}$ field for several points 10^n V/cm for n = 1,2,3 up to 6. Calculate a few intermediate points, say 3×10^n V/cm, if the change is large. Using your favorite graphics software (Origin, Sigma plot, Excel, etc.) plot the velocity v, and average electron energy u vs. $\mathcal{E}$ field.

Homework assignments will appear on the web at:
http://www.ece.udel.edu/~kolodzey/courses/eleg667f06.html
Note: On each homework and report submission, please give your name, the due date, assignment number and the course number. For full credit - include units/dimensions for all numerical quantities