ELEC 4700 – Assignment 1: Monte-Carlo Modeling of Electron Transport

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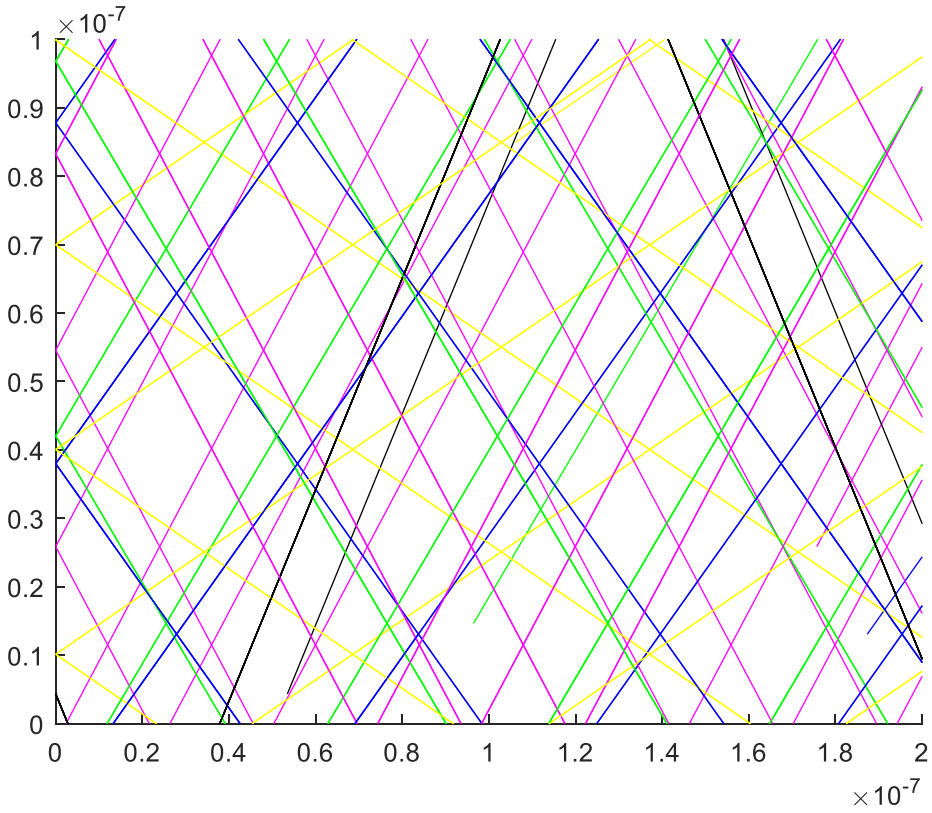
1 – Electron Modelling

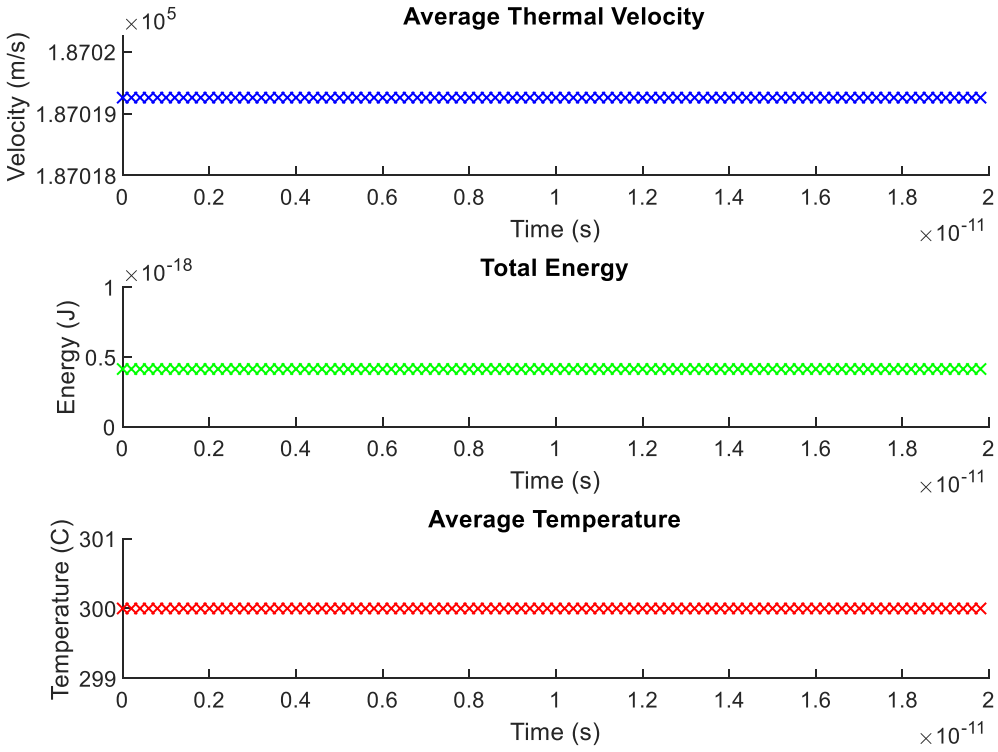
a) $V_{th} = 1.87 * 10^5$ m/s

b) MFP = $3.7404 * 10^{-8}$ m

c) I) 2-D plot of particle trajectories

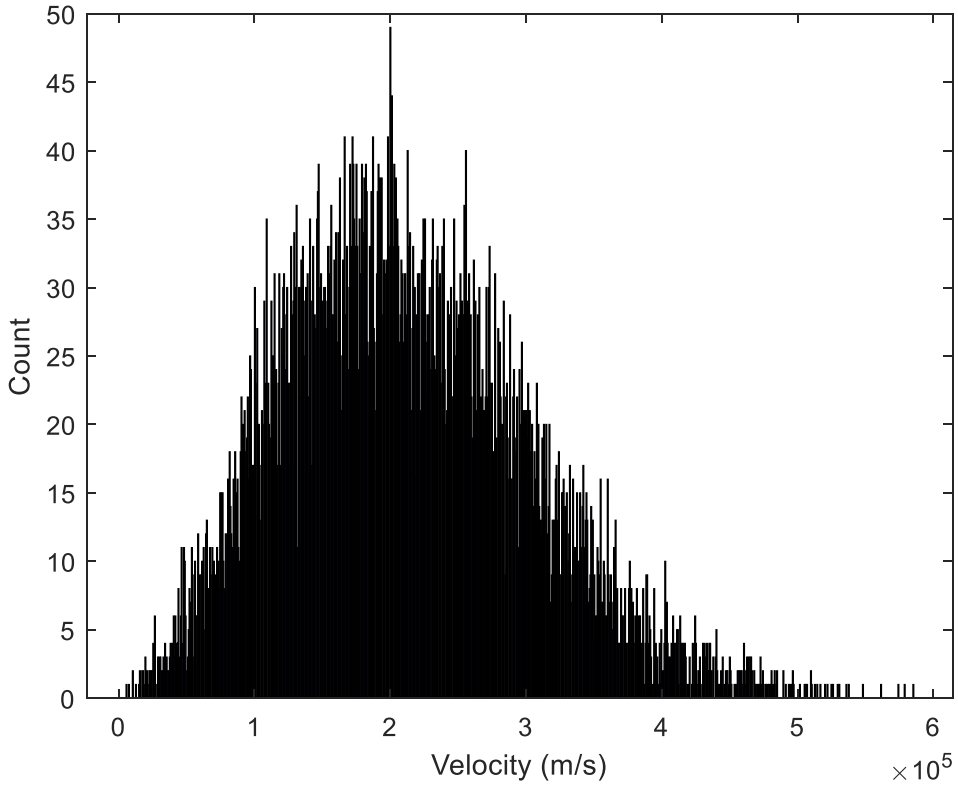


II) Temperature Plot

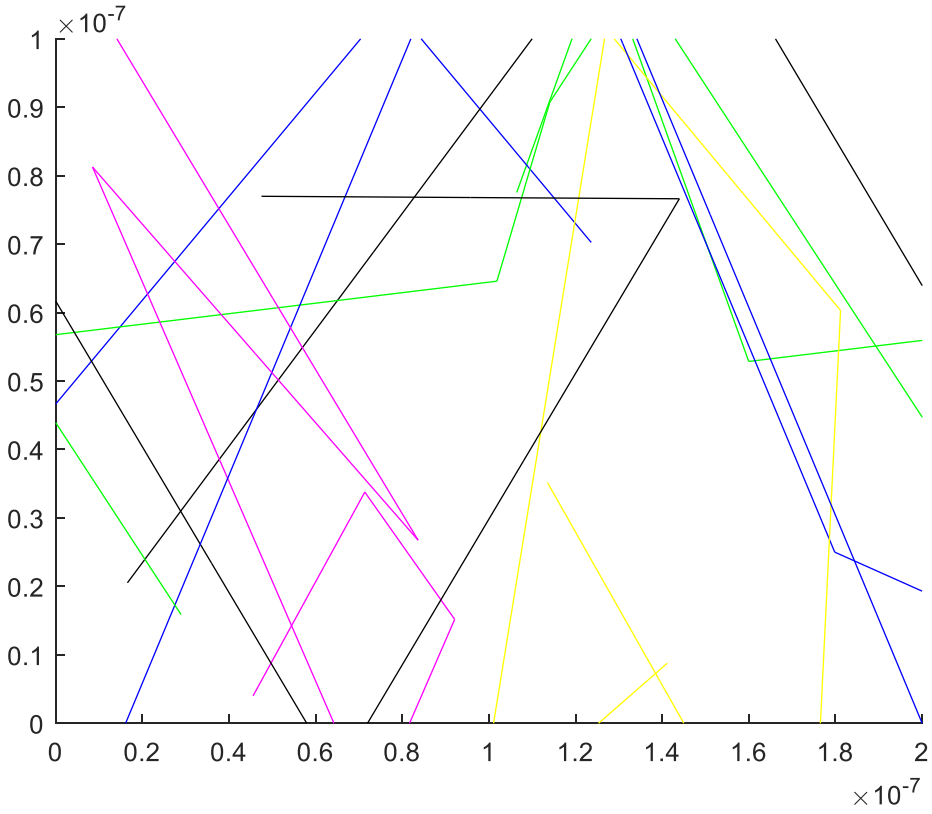


2 – Collisions with Mean Free Path

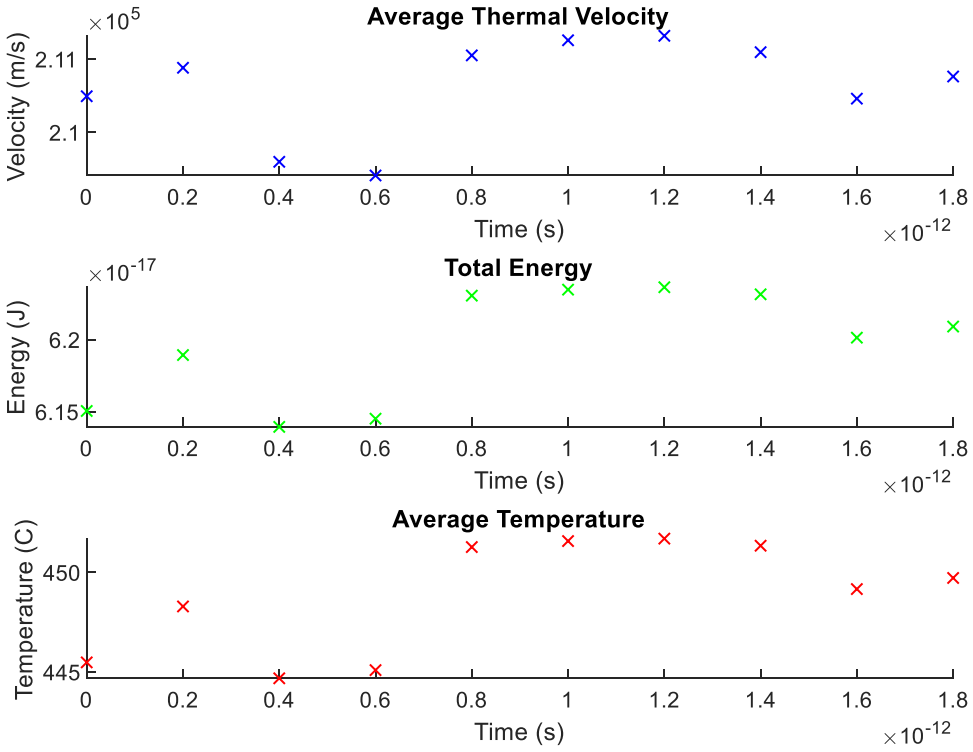
a) Histogram



b) 2-D plot of particle trajectories



c) Temperature Plot

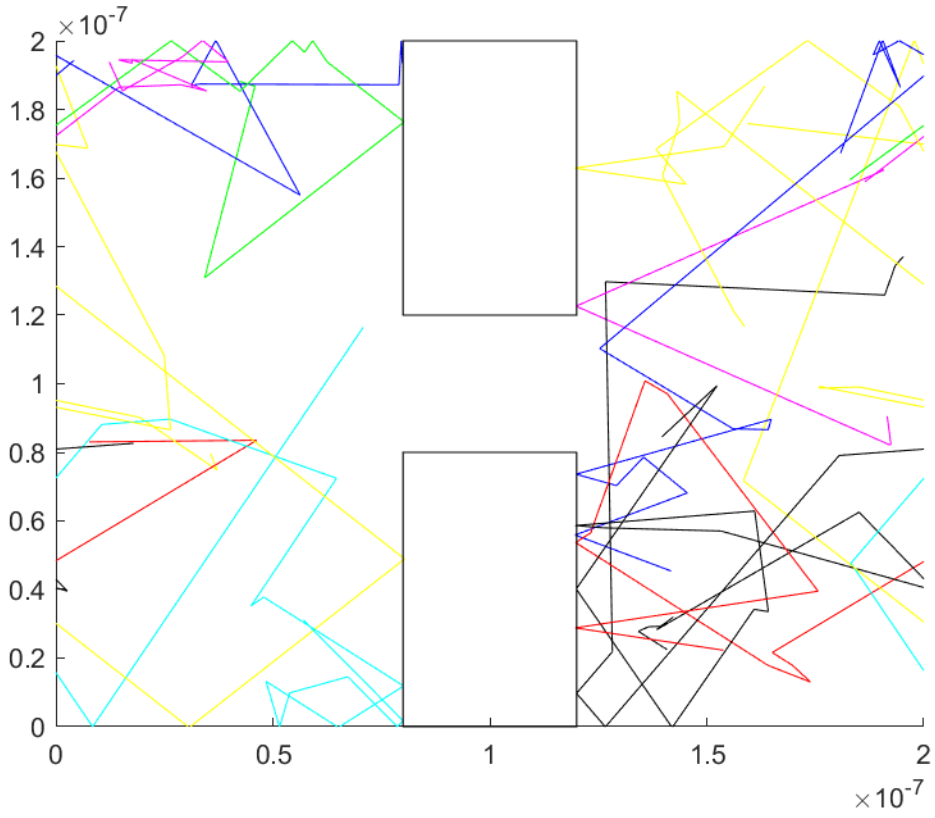


d) MFP = 3.74 * 10^{-8} m

e) T_{mn} = 2*10^{-13} s

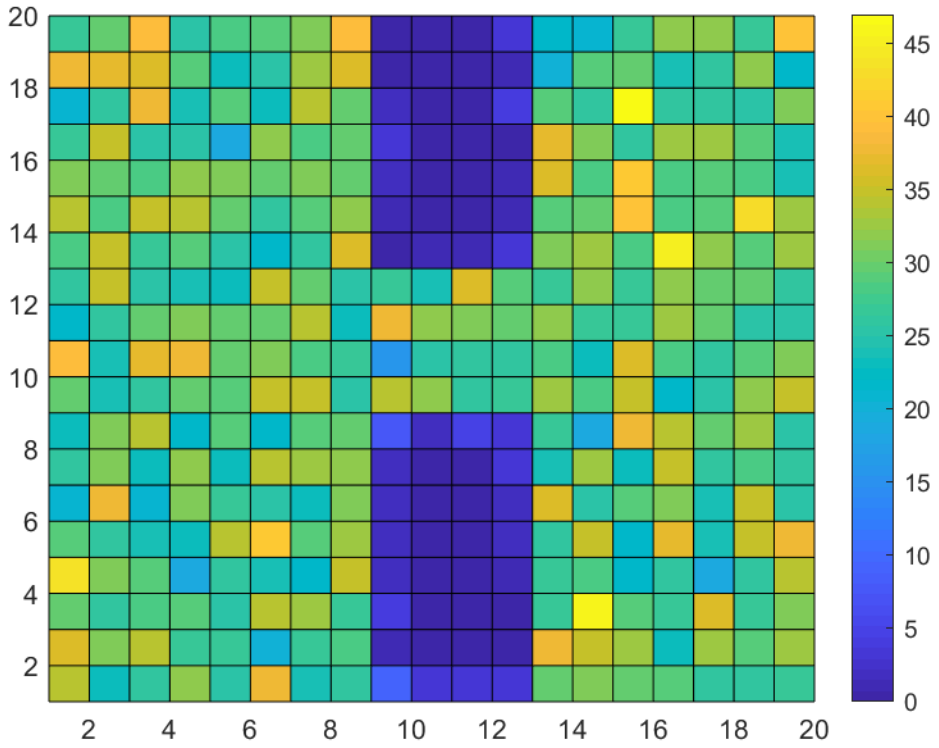
3 – Enhancements

a) 2-D plot of particle trajectories

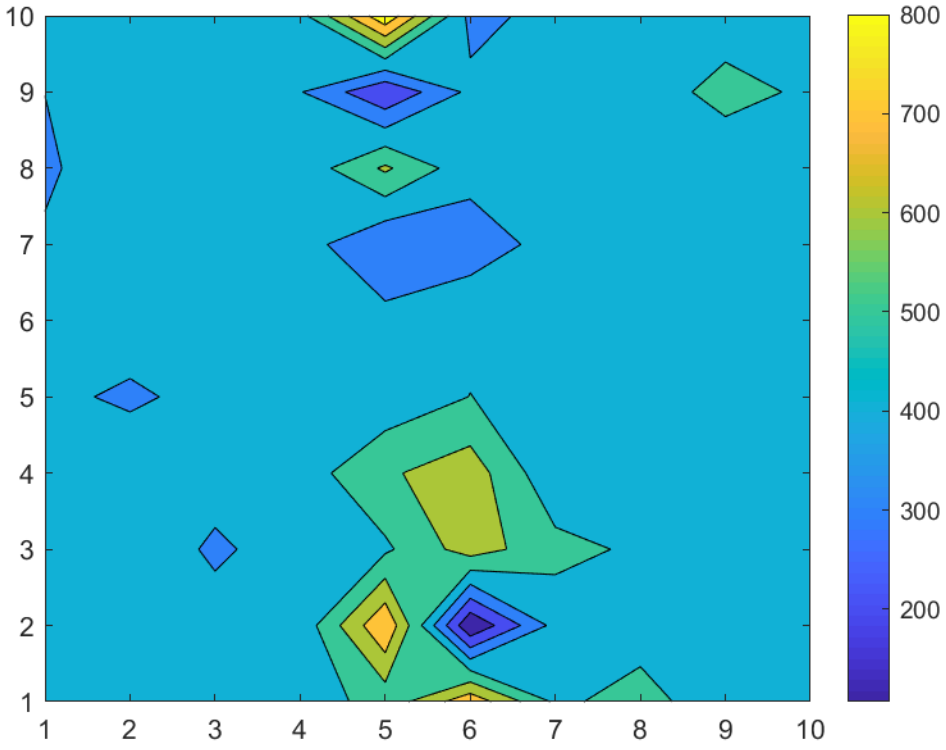


b) ?

c) Electron density map



d) Temperature map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