Experimental parameters for the momentum kick

- A 1001-molecule crystal with the exciton wave packet centered around x=501 in real space. The width of the wave packet is about 30 lattice sites.
- The whole crystal is put into a DC field of 1kV/cm. The direction of the field is perpendicular to the intermolecular axis.
- At t0=0, we switch on a laser Gaussian beam. The wavelength of the laser is 1000 nm. The waist (focus radius) of the Gaussian beam is 5 micrometer. The intermolecular axis of the crystal is coincident with the z-axis of the beam. The beam is positioned such that its center is 35 micrometer away from the center of the exciton wave packet. The intensity of the laser at the beam center is 10^7 W/cm^2, based on which we can determine the power the laser is 7.85 W.
- The laser pulse will last for 3 microsecond (T=3 microsecond). During this time period, its average intensity (or intensity envelope?) will vary like a squared sine function as follows: Intensity ~ (Sin(Pi*t/T))^2.
- I only consider the three nearest neighbors when computing the dipole-dipole interaction. To reduce computation cost, I don't consider all the molecules in the crystal. It is only the region about 150 lattice site wide that centers around the wave packet is included in the calculation. This should be enough for obtaining accurate results.