# Manual of TEM\_SIMU\_MATLAB

## Crystal Slicing

This folder contains a series of functions for slicing crystals, anyway, current versions only support slicing of cubic lattice, a more generalized version is to be released soon. Besides the restrictions on input lattice type, removal of duplicate atoms will be inserted in all the current versions of the slicing functions.

### CrystalSlicing

The first version of crystal slicing function, using the old format of crystal info matrix and requesting that input orientation vector to be orthogonal independent of the lattice indices. This is the only version of crystal slicing function that reads in a orientation direction, in future versions, this function shall be move to a more comprehend crystal analysis program.

Example: GaAs [1 1 1] using fractional coordinates for a cubic cell is input:

Input crystal matrix (the first to third row contain the atomic coordinates and the forth row contains the atomic types represented by their atomic numbers):

The output is combination of a reorganized crystal matrix according to the height difference and an array containing the number of atoms on each slice. You can also let input YN or q = 1 to plot the atom distribution on each slice





