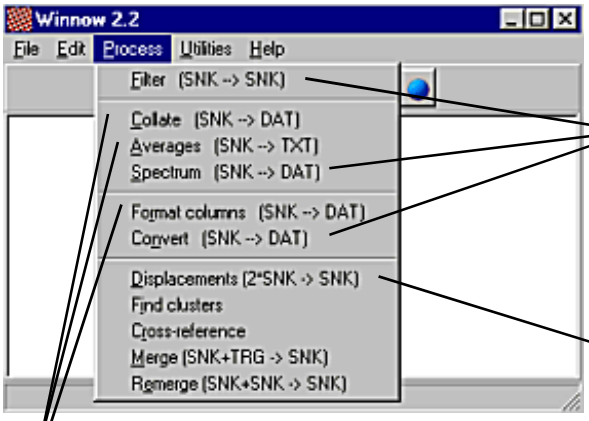
# WINNOW'S USER INTERFACE

Winnow is a tool for processing data from output files (*.SNK) produced by Kalypso and Snook. The important Winnow commands are found on the Process menu. In order to use Winnow effectively, you must learn to write expressions in Winnow's 'query language'.

It is also possible to dump the output data from a SNK file into an ascii file, and write your own routines to process it. Read the Winnow documentation to learn about the query language.

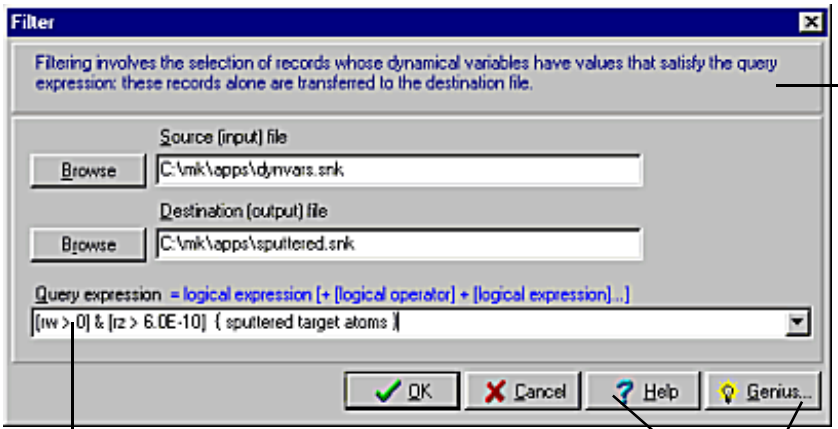



The most important features of Winnow are the Filter, Spectrum and Convert commands. Filter extracts records from a SNK file based on their attributes (for example, particles which have kinetic energy > 10 eV). Spectrum produces a binned distribution of some attribute (e.g. an angular or kinetic energy distribution). Convert dumps the records from a SNK file into an ascii file.

The commands on the lower part of the menu are used for specialised tasks. There are many possible post-processing operations that Winnow cannot perform. You can use the example source code provided with Winnow as a template for writing your own processing routines.

The Format Columns feature produces an ascii file which lists some attribute(s) calculated for each particle record in the original SNK file. For example, you could make a listing of energy vs. distance from the surface.

Averages and Collate can be used to average values of some attribute. The Collate feature produces averages on a run-by-run or particle-by-particle basis.



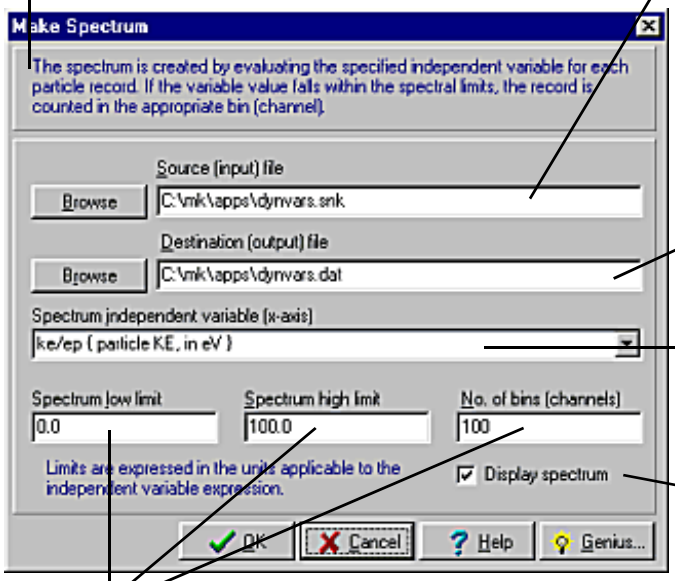

A filtering operation counts the number of records that satisfy the query condition. Use this to calculate a sputter yield, for example. The output is a SNK file containing only the records that satisfy the query.

This filter query defines sputtered atoms:
[rw > 0] & [rz > 6.0E-10] { sputtered target atoms }

General Help, and a 'Genius' for help in constructing filter queries.

A spectrum is a distribution of any dynamical variable - position, energy, velocity etc.

The input is a SNK file. For example, this might contain the records of sputtered atoms.




The spectrum is output as an ascii file with 2 numeric (x, y) columns.

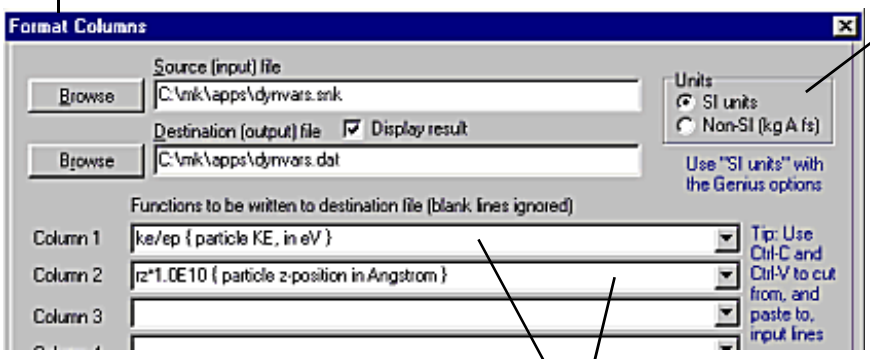
This expression defines the dynamical variable. In this example, 'ke/ep' refers to the kinetic energy expressed in eV.

Display spectrum as a graph

Spectrum limits (0-100 eV), and number of bins to use.

Format Columns will calculate functions of dynamical variables for each record in the SNK file, and will output them to an ascii file (numeric columns).

Choose units (specify SI if in doubt)




The expressions define the variables which will be listed in columns 1, 2, ... of the output ascii file. For example, 'rz' is the z-axis position expressed in SI units.