

N-Dimensional Independent Variable Table Format

The format to use for inputting an N-D Table into Arches is similar to the current format, and in fact is *completely unchanged for the utilization of a 3-D table*.

The front end is exactly the same, header, variable names, grid numbers, etc. After the units row the grids for each of the independent variables must be listed in reverse order from i_N to i_2 . If i_1 has dependence on another independent variable, that variable must be used as i_N .

The grid list of i_1 must be put at the top of the section when i_N changes. The sections between these i_1 grid lists should be formatted similar to the Matlab listing of an N-D table. Consider a list of matrices of one dependent variable in-between each of the i_1 lists. Rows across should vary in i_1 and columns down in i_2 . (A space after this first tabulation makes it easier to read.) The next matrix should then vary the i_3 index to the next value and again vary in i_1 across rows and i_2 in columns. Repeat over all i_3 , then change i_4 and repeat, until all blocks over $i_{(N-1)}$ are written. Then insert the next i_1 grid list over the next value of i_N , and list the matrices again with this value for i_N .

When this is completed for 1 dependent variable, repeat for all others in the same way.

Example 4D/5D layouts shown

- list indicates a grid row
- indentation with "vary arrows" are not in table but shown for illustration
- blocks are matrices of one dependent variable

#Header
#Header

no.indepvars
name indepvars
grid sizes
no. depvars
name depvars
uint depvars

i5 list ----->
i4 list ----->
i3 list ----->
i2 list ----->

