

xset: set variables for XSPEC models.

Modify a number of XSPEC internal switches.

Syntax: **xset** [abund | cosmo | delta | mdatadir | method | seed |
statistic | weight | xsect | <string_name>] [<options> |
<string_value>]

The arguments abund, cosmo, method, statistic, weight, and xsect just run the appropriate XSPEC commands. mdatadir changes the directory in which XSPEC searches for model data files. You probably don't want to change this. The seed option requires an integer argument, which will then be used to immediately re-seed and re-initialize XSPEC's random-number generator.

The delta option is for setting fit delta values (see the **newpar** command) which are proportional to the current parameter value rather than fixed. For example,

```
XSPEC12> xset delta .15
```

will set each parameter fit delta to $.15 * \text{parVal}$. To turn proportional deltas off and restore the original fixed deltas, set delta to a negative value or 0.0. The current proportional delta setting can be seen with **show control**.

The <string_name> option can be used to pass string values to models. XSPEC maintains a database of <string_name>, <string_value> pairs created using this command. Individual model functions can then access this database. Note that xset does no checking on whether the <string_name> is used by any model so spelling errors will not be trapped.

To access the <string_name>, <string_value> database from within a model function use the fortran function fgmstr. This is defined as character*128 and takes a single argument, the string name as a character*128. If the <string_name> has not been set then a blank string will be returned.

The current <string_name> options, models to which they apply and brief descriptions are given in the following table :

APECROOT	apec, vapec, bapec, bvapec, gnei, vgnei, equil, vequil, npshock, vnpshock, pshock, vpshock, sedov, vsedov, c6mekl, c6vmekl, c6pmekl, c6pvmekl, cemkl, cevmdl, mekal, vmekal, mkcflow, vmclow	Switch from default APEC input files.
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APECTHERMAL	apec, vapec, bapec, bvapec, gnei, vgnei, equil, vequil, npshock, vnpshock, pshock, vpshock, sedov, vsedov, c6mekl, c6vmekl, c6pmekl, c6pvmekl, cemkl, cevmdl, mekal, vmekal, mkcflow, vmclow	Thermally broaden emission lines in APEC input files.
APECVELOCITY	apec, vapec, bapec, bvapec, gnei, vgnei, equil, vequil, npshock, vnpshock, pshock, vpshock, sedov, vsedov, c6mekl, c6vmekl, c6pmekl, c6pvmekl, cemkl, cevmdl, mekal, vmekal, mkcflow, vmclow	Velocity broaden emission lines in APEC input files.
NEIAPECROOT	gnei, vgnei, equil, vequil, npshock, vnpshock, pshock, vpshock, sedov, vsedov	Switch from default NEIAPEC input files.
NEIVERS	gnei, vgnei, equil, vequil, npshock, vnpshock, pshock, vpshock, sedov, vsedov	Switch NEIAPEC version number.
CFLOW_VERSION	mkcflow, vmclow	Switch CFLOW version number.
CFLOW_NTEMPS	mkcflow, vmclow	Switch number of temperature bins used in CFLOW model.
SUZPSF-IMAGE	suzpsf	Set image file to be used for surface brightness.
SUZPSF-RA	suzpsf	Set RA for center surface brightness map which is taken from the WMAP.
SUZPSF-DEC	suzpsf	Set Dec for center surface brightness map which is taken from the

		WMAP.
SUZPSF-MIXFACT-IFILE#	suzpsf	Set filename to read mixing factors.
SUZSF-MIXFACT-OFILE#	suzpsf	Set filename to write mixing factors.
XMMPsf-IMAGE	xmmps	Set image file to be used for surface brightness.
XMMPsf-RA	xmmps	Set RA for center surface brightness map which is taken from the WMAP.
XMMPsf-DEC	xmmps	Set Dec for center surface brightness map which is taken from the WMAP.
XMMPsf-MIXFACT-IFILE#	xmmps	Set filename to read mixing factors.
XMMPsf-MIXFACT-OFILE#	xmmps	Set filename to write mixing factors.
NSA_FILE	nsa	Change filename used for model data.
NSAGRAV_DIR	nsagrav	Change directory used for model data files.
NSMAX_DIR	nsmax	Change directory used for model data files.
ZXIPCF_DIR	zxipcf	Change directory used for model data files.

Examples:

```
XSPEC12> xset neivers 2.0
// Set the NEIVERS variable to 2.0
XSPEC12> xset
```

```
    // List the current string variables
XSPEC12> xset apecroot /foo/bar/apec_v1.01
    // Set the APECROOT variable
XSPEC12> xset seed 1515151
    // Re-initialize the pseudo random-number generator
    // with the seed value 1515151
```