

pshock, vps shock: plane-parallel shocked plasma, constant temperature

Constant temperature, plane-parallel shock plasma model. The references for this model can be found under the description of the equil model. Several versions are available. To switch between them use the **xset neivers** command. **xset neivers 1.0** gives the version from xspec v11.1, **xset neivers 1.1** uses updated calculations of ionization fractions using dielectronic recombination rates from Mazzotta et al (1988), and **xset neivers 2.0** uses the same ionization fractions as 1.1 but uses APED to calculate the resulting spectrum. Note that versions 1.x have no emission from Ar. The default is version 1.1.]

The pshock version has abundances given by the Anders & Grevesse (1993) mixture, while the vps shock variant allows the user to set the abundance vector.

Parameters for the **pshock** version are:

par1	plasma temperature (keV)
par2	Metal abundances (He fixed at cosmic). The elements included are C, N, O, Ne, Mg, Si, S, Ar, Ca, Fe, Ni in ratios set by the abund command.
par3	Lower limit on ionization timescale in units of s cm^{-3} .
par4	Upper limit on ionization timescale in units of s cm^{-3} .
par5	redshift z
norm	$\frac{10^{-14}}{4\pi [D_A (1+z)]^2} \int n_e n_H dV$ where D_A is the angular diameter distance to the source (cm), and n_e , n_H (cm^{-3}) are the electron and hydrogen densities respectively.

Parameters for **vps shock** are:

par1	plasma temperature (keV)
par2	H density in cm^{-3}
par3-par14	Abundances for He, C, N, O, Ne, Mg, Si, S, Ar, Ca, Fe, Ni wrt the solar as defined by the abund command.
par15	Lower limit on ionization timescale in units of s cm^{-3} .
par16	Upper limit on ionization timescale in units of s cm^{-3} .

par17

redshift z

norm

$\frac{10^{-14}}{4\pi [D_A (1+z)]^2} \int n_e n_H dV$ where D_A is the angular diameter distance to the source (cm) , and n_e , n_H (cm^{-3}) are the electron and hydrogen densities respectively.