

- **gauss, zgauss: gaussian line profile**

A simple gaussian line profile. If the width is ≤ 0 , then it is treated as a delta function. The **zgauss** variant computes a redshifted gaussian.

$$A(E) = K \frac{1}{\sigma\sqrt{2\pi}} \exp\left(-\frac{(E - E_l)^2}{2\sigma^2}\right)$$

where:

par1 = E_l line energy in keV

par2 = σ line width in keV

Norm = K total photons $\text{cm}^{-2} \text{s}^{-1}$ in the line

For **zgauss** the corresponding formula is:

$$A(E) = \frac{K}{\sqrt{2\pi}\sigma^2(1+z)} \exp\left(\frac{1}{2}\left[\frac{(E(1+z) - E_L)}{\sigma}\right]^2\right)$$

and parameter settings are:

par1 = E_L line energy in keV

par2 = σ line width in keV

par3 = z redshift

norm = K total photons $\text{cm}^{-2} \text{s}^{-1}$ in the line