

- **compST: Comptonization, Sunyaev & Titarchuk**

A Comptonization spectrum after Sunyaev and Titarchuk 1980, *A&A*, 86, 121. This model is the Comptonization of cool photons on hot electrons.

par1            temperature in keV

par2            optical depth

$\frac{Nf}{4\pi d^2}$ , where  $N$  is the total number of photons from the source,  $d$  is the

norm           distance to the source, and  $f$  is the factor  $\frac{z(z+3)y^z}{\Gamma(2z+4)\Gamma(z)}$ .  $z$  is the spectral index,  $y$  is the injected photon energy in units of the temperature, and  $\Gamma$  is the incomplete gamma function.