If

$$\Delta\nu_D = \frac{\nu_0 \xi_0}{c}$$ Doppler width of the line

$$\mathrm{v} = \frac{\left(\nu - \nu_0\right)}{\Delta\nu_D}$$

$$y = \frac{\Delta\nu}{\Delta\nu_D} = \frac{\xi}{\xi_0}$$

$$a = \frac{\gamma}{4\pi\ \Delta\nu_D}$$