Out[ ]=

	Formula	Values
Wavelength	λ	460.862 meters nano
Linewidth	Γ	$\frac{2.01\times10^{8}}{\text{seconds}}$, $2\,\pi$ (31.9901 Hz Mega)
Frequency	$\omega = 2\,\pi\,\nu$	$\frac{4.08723\times10^{15}\ \text{radians}}{\text{seconds}}$, $2\,\pi$ (650.503 Hz Tera)
Recoil Velocity	$\mathbf{v} = \frac{\hbar\,k}{m}$	$\frac{0.00984961\ \text{meters}}{\text{seconds}}$, $\frac{9.84961\ \text{meters micro}}{\text{milli seconds}}$
Lifetime	$\tau = \frac{1}{\Gamma}$	4.97512 nano seconds
Saturation intensity	$\text{Isat} = \frac{\hbar\,\omega\,\Gamma}{2\,\sigma 0} = \frac{2\,\pi^2\,\hbar\,c\,\Gamma}{3\,\lambda^3}$	$\frac{42.7158\ \text{milli Watts}}{\text{centi}^2\ \text{meters}^2}$
Optical cross–section	$\sigma 0 = \frac{3\,\lambda^2}{2\,\pi} = 6\,\pi\,\lambda\!\!\!^{-2}$	$0.101411\ \text{meters}^2\ \text{micro}^2$
Recoil Energy	$\frac{Erec}{\hbar} = \omega_r = \frac{\hbar\,k^2}{2\,m}$	67.1426 Hz Kilo, $2\,\pi$ (10.6861 Hz Kilo)
Recoil Ratio	$\frac{\omega_r}{\Gamma}$	0.000334043
Capture Velocity	$v_c = \frac{\Gamma}{k} = \frac{\Gamma\,\lambda}{2\,\pi}$	$\frac{14.743\ \text{meters}}{\text{seconds}}$
Doppler temperature	$T_D = \frac{\hbar\,\Gamma}{2\,KB}$	767.642 Kelvin micro
Recoil Temperature	$T_r = \frac{2\,\omega r\,\hbar}{KB}$	1.0257 Kelvin micro