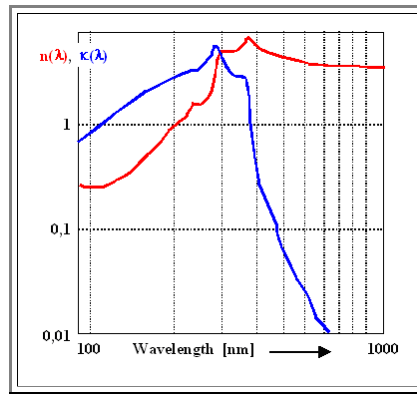


# Complex Index of Refraction of Silicon and GaAs

Illustration

Here is the complex index of refraction of *Silicon* (from Handbook of Optical Constants of Solids (E.D. Palik))



Note that the imaginary part  $\kappa$  increases as soon as the wavelength is small enough for band-to-band absorption processes; i.e.  $h \cdot \nu > E_G$  applied (with  $E_G$  = band gap).

Here is the dielectric function and the complex index of refraction for GaAs.

Note that several groups actually *calculated* those curves and that they match rather nicely with the measured values.

