Dispersion formulas

1: Sellmeier (preferred)

$$n^2 - 1 = C_1 + \frac{C_2\lambda^2}{\lambda^2 - C_3^2} + \frac{C_4\lambda^2}{\lambda^2 - C_5^2} + \frac{C_6\lambda^2}{\lambda^2 - C_7^2} + \frac{C_8\lambda^2}{\lambda^2 - C_9^2} + \frac{C_{10}\lambda^2}{\lambda^2 - C_{11}^2} + \frac{C_{12}\lambda^2}{\lambda^2 - C_{13}^2} + \frac{C_{14}\lambda^2}{\lambda^2 - C_{15}^2} + \frac{C_{16}\lambda^2}{\lambda^2 - C_{17}^2}$$

2: Sellmeier-2

$$n^2 - 1 = C_1 + \frac{C_2\lambda^2}{\lambda^2 - C_3} + \frac{C_4\lambda^2}{\lambda^2 - C_5} + \frac{C_6\lambda^2}{\lambda^2 - C_7} + \frac{C_8\lambda^2}{\lambda^2 - C_9} + \frac{C_{10}\lambda^2}{\lambda^2 - C_{11}} + \frac{C_{12}\lambda^2}{\lambda^2 - C_{13}} + \frac{C_{14}\lambda^2}{\lambda^2 - C_{15}} + \frac{C_{16}\lambda^2}{\lambda^2 - C_{17}}$$

3: Polynomial

$$n^2 = C_1 + C_2\lambda^{C_3} + C_4\lambda^{C_5} + C_6\lambda^{C_7} + C_8\lambda^{C_9} + C_{10}\lambda^{C_{11}} + C_{12}\lambda^{C_{13}} + C_{14}\lambda^{C_{15}} + C_{16}\lambda^{C_{17}}$$

4: RefractiveIndex.INFO

$$n^2 = C_1 + \frac{C_2\lambda^{C_3}}{\lambda^2 - {C_4}^{C_5}} + \frac{C_6\lambda^{C_7}}{\lambda^2 - {C_8}^{C_9}} + C_{10}\lambda^{C_{11}} + C_{12}\lambda^{C_{13}} + C_{14}\lambda^{C_{15}} + C_{16}\lambda^{C_{17}}$$

5: Cauchy

$$n = C_1 + C_2\lambda^{C_3} + C_4\lambda^{C_5} + C_6\lambda^{C_7} + C_8\lambda^{C_9} + C_{10}\lambda^{C_{11}}$$

6: Gases

$$n - 1 = C_1 + \frac{C_2}{C_3 - \lambda^{-2}} + \frac{C_4}{C_5 - \lambda^{-2}} + \frac{C_6}{C_7 - \lambda^{-2}} + \frac{C_8}{C_9 - \lambda^{-2}} + \frac{C_{10}}{C_{11} - \lambda^{-2}}$$

7: Herzberger

$$n = C_1 + \frac{C_2}{\lambda^2 - 0.028} + C_3\left(\frac{1}{\lambda^2 - 0.028}\right)^2 + C_4\lambda^2 + C_5\lambda^4 + C_6\lambda^6$$

8: Retro

$$\frac{n^2 - 1}{n^2 + 2} = C_1 + \frac{C_2\lambda^2}{\lambda^2 - C_3} + C_4\lambda^2$$

9: Exotic

$$n^2 = C_1 + \frac{C_2}{\lambda^2 - C_3} + \frac{C_4(\lambda - C_5)}{(\lambda - C_5)^2 + C_6}$$