

Achromatisches Sehen mit relativer Leuchtdichte

Gleichungen mit Hyperbel- und Potenzfunktionen

$$F_{ab}(x_r, a) = b \tanh(x_r/a) = b \frac{e^{x_r/a} - e^{-x_r/a}}{e^{x_r/a} + e^{-x_r/a}} \quad \begin{matrix} x_r = \log(L_r) \\ L_r = L/L_u \end{matrix} \quad [1a]$$

$$\frac{dF_{ab}(x_r, a)}{dx_r} = \frac{4b}{a[e^{x_r/a} + e^{-x_r/a}]^2} \quad \begin{matrix} x_r = \ln L_r / \ln(10) \\ dx_r/dL_r = 1/(\ln(10)L_r) \\ m = 1/(a \ln(10)) \end{matrix} \quad [5a]$$

$$F_{ab}(L_r, m) = b \tanh(x_r/a) = b \frac{L_r^m - L_r^{-m}}{L_r^m + L_r^{-m}} \quad \begin{matrix} x_r = \log(L_r) \\ L_r = L/L_u \end{matrix} \quad [1b]$$

$$\frac{dF_{ab}(L_r, m)}{dL_r} = \frac{4bm}{L_r [L_r^m + L_r^{-m}]^2} \quad \begin{matrix} x_r = \ln L_r / \ln(10) \\ dx_r/dL_r = 1/(\ln(10)L_r) \\ dx_r = (am/L_r) dL_r \end{matrix} \quad [5b]$$