TUB-Registrierung: 20241201-hgy110n1.txt /.ps
Anwendung für Beurteilung und Messung von Display- oder Druck-Ausgabe

Siehe ähnliche Dateien der ganzen Serie: http://farbe.li.tu-berlin.de/
Technische Information: http://farbe.li.tu-berlin.de oder http://color.li.tu-berlin.de

TUB-Material: Code=rha4a

Achromatisches Sehen mit relativer Leuchtdichte
Mathematische Gleichungen mit Potenzfunktionen

$F_{ab}(L_r,m) = b\tanh(x_r/a) = b\dfrac{L_r^m - L_r^{-m}}{L_r^m + L_r^{-m}}$ $\quad x_r = \ln(L_r)/L_r = \ln L_r$ $\quad x_r <= 0$ [1]

$\dfrac{dF_{ab}(L_r,m)}{dL_r} = \dfrac{4bm}{L_r[L_r^m + L_r^{-m}]^2}$ $\quad \dfrac{dx_r}{dL_r} = 1/(\ln(10)L_r)$ $\quad m=1/(\ln(10)a)$ [5]

$\dfrac{dF_{ab}(L_r,m)}{dL} = \dfrac{4bmL_u}{L_r[L_r^m + L_r^{-m}]^2}$ $\quad \dfrac{dL_r}{dL} = dL/L_u$ $\quad \dfrac{dL_r}{dL_u}(L_r,m) = 1$ [6]

$\dfrac{L}{dL} = \dfrac{4bmL_uL}{L_r[L_r^m + L_r^{-m}]^2}$ $\quad dL = \dfrac{L_r[L_r^m + L_r^{-m}]^2}{4bmL_u}$ [7]

hgy10-3a m=0 -1a m=0.1 -8a

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hgy10-3b m=0 -2a m=0 -8c

Achromatisches Sehen mit relativer Leuchtdichte
Mathematische Hyperbel- und Potenzfunktionen

$F_{ab}(x_r,a) = b\tanh(x_r/a) = b\dfrac{e^{x_r/a} - e^{-x_r/a}}{e^{x_r/a} + e^{-x_r/a}}$ $\quad x_r = \ln(L_r)/\ln(10) = \log(L_r)$ $\quad L_r = L/L_u$ $\quad x_r <= 0$ [1]

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

$\dfrac{L}{dL} = \dfrac{4bm}{[e^{x_r/a} + e^{-x_r/a}]^2}$ $\quad dL = \dfrac{[e^{x_r/a} + e^{-x_r/a}]^2 L}{4bm}$ [7]

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hgy11-1a m=0.1 -1c

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$\dfrac{dF_{ab}(L_r,m)}{dL_r} = \dfrac{4bm}{L_r[L_r^m + L_r^{-m}]^2}$ $\quad \dfrac{dx_r}{dL_r} = 1/(\ln(10)L_r)$ $\quad m=1/(\ln(10)a)$ [5]

$\dfrac{L}{dL} = \dfrac{4bmL}{L_r[L_r^m + L_r^{-m}]^2}$ $\quad dL = \dfrac{L_r[L_r^m + L_r^{-m}]^2}{4bmL_u}$ [7]

$\dfrac{L/dL}{(L/dL)_u} = \dfrac{4L}{L_r[L_r^m + L_r^{-m}]^2L_u}$ $\quad \dfrac{dL}{dL_u} = \dfrac{L_r[L_r^m + L_r^{-m}]^2}{4}$ [8]

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$\dfrac{L/dL}{(L/dL)_u} = 1$ für $\begin{cases} L = L_u \\ x_r = 0 \end{cases}$ $\quad \dfrac{dL}{dL_u} = 1$ für $\begin{cases} L = L_u \\ x_r = 0 \end{cases}$ [9]

hgy10-3b m=0 -2a m=0 -8c-b

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