

$(Y/\Delta Y) / (Y/\Delta Y)_u$

HAULAB- $Y$  contrast

normalized to  $(Y/\Delta Y)_u$

$$C_r/C_{ru} = (Y/\Delta Y)/(Y/\Delta Y)_u$$

$$L^* = s(Y/Y_n)^n - d \quad (Y_n=100, Y_u=22, s=134,6, n=0,31, d=34,6) \quad [1a]$$

$$L^* = r(Y/Y_u)^n - d \quad (r = s(Y_u/Y_n)^n = 79,10, L^*_u = r - d = 44,5) \quad [1b]$$

$$Y/dY = Y / \{ [ (Y_n / (n s)) ] (Y / Y_n)^{1-n} \} \quad [4c]$$

$$(Y/Y)_u = Y_u / \{ [ (Y_n / (n s)) ] (Y_u / Y_n)^{1-n} \} \quad [4d]$$

$$(Y/dY) / (Y/dY)_u = (Y/Y_u)^n \quad [4e]$$

