

color valence metric (color data: linear relation to CIE 1931 data)

linear color terms	name and relationship to CIE tristimulus or chromaticity values	notes
tristimulus values	X, Y, Z	
chromatic value	<i>linear chromatic value diagram (A, B)</i>	$n=D65$
red-green	$A = [X / Y - X_n / Y_n] Y = [a - a_n] Y$ $= [x / y - x_n / y_n] Y$	(background)
yellow-blue	$B = - 0,4 [Z/Y - Z_n/Y_n] Y = [b - b_n] Y$ $= - 0,4 [z / y - z_n / y_n] Y$	
radial	$C_{AB} = [A^2 + B^2]^{1/2}$	
chromaticity	<i>linear chromaticity diagram (a, b)</i>	compare to linear cone excitation
red-green	$a = X / Y = x / y$	$L/(L+M)=P/(P+D)$ $S/(L+M)=T/(P+D)$
yellow-blue	$b = - 0,4 [Z / Y] = - 0,4 [z / y]$	
radial	$c_{ab} = [(a - a_n)^2 + (b - b_n)^2]^{1/2}$	

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chromaticity red-green yellow-blue radial	<i>linear chromaticity diagram (a, b)</i> $a = X / Y = x / y$ $b = - 0,4 [Z / Y] = - 0,4 [z / y]$ $c_{ab} = [(a - a_n)^2 + (b - b_n)^2]^{1/2}$	<i>compare to linear cone excitation</i> $L/(L+M)=P/(P+D)$ $S/(L+M)=T/(P+D)$

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chromaticity red-green yellow-blue radial	<i>linear chromaticity diagram (a, b)</i> $a = X / Y = x / y$ $b = - 0,4 [Z / Y] = - 0,4 [z / y]$ $c_{ab} = [(a - a_n)^2 + (b - b_n)^2]^{1/2}$	compare to linear cone excitation $L/(L+M)=P/(P+D)$ $S/(L+M)=T/(P+D)$