

Colour thresholds and potential functions with three constants A_i

nonlinear color terms	name and relationship of tristimulus value difference threshold dY and tristimulus value Y	notes
Threshold space <i>ABY-JND7</i> equation (7) logarithmic approximation $F = \log(dY)$	$x = A_3 + A_1 \cdot Y^g \quad (g = A_2)$ $F = \log(x)$ $dF / dx = 1. / [x \cdot \log(10.)]$ <i>necessary for least square fit of data:</i> $dx / dA_1 = Y^g$ $dx / dg = A_1 \cdot Y^g \cdot \ln(Y) \quad (g = A_2)$ $dx / dA_3 = 1$ $dx / dY = A_1 \cdot g \cdot Y^{g-1}$	..
	$dF / dY = dF / dx \cdot [dx / dY]$ $= [A_1 \cdot g \cdot Y^{g-1}] / [x \cdot \log(10.)]$ for $dF = 1$: $dY = [x \cdot \log(10.)] / [A_1 \cdot g \cdot Y^{g-1}]$ $Y / dY = [A_1 \cdot g \cdot Y^g] / [x \cdot \log(10.)]$	