

The size of perceptual difference of colors (j, k) is scaled as d_{jk} by selecting a pair of Munsell grays in which the lightness difference matches in size with the color difference. Hence, d is given in terms of Munsell V . The degree of principal hue component (θ) in a color j is scaled as $\theta(j)$ by making marks on a line segment and the range of θ is from 0 to 10. By plotting $\theta(H V/C)$ on Munsell H-circle, principal hue curves $\theta(H V/C)$ are defined where $\theta = R, Y, G, B, V = 3$ to 7, and $C = 2$ to 10. In this process, similar plots of NCS codes $c(\theta)$ are used as references. The curves $\theta(H V/C)$ tell us the appearance of Munsell colors ($H V/C$) and also enable us to predict color differences. The relationship between d_{jk} and $(V = (V_j - V_k), \theta = (\theta_j - \theta_k))$ is tested in various ways, e.g., logarithmic, power, Minkowski-type functions. The best predictor is given by a simple linear form, $d = aV(V + \{d_0 + a(\theta)\})$. For 899 pairs (j, k), 706 differing in H, C and 193 differing in H, V, C, $aV=0.459$, $d_0 = 0.610$, $aR=0.199$, $aY = 0.031$, $aG = 0.098$, $aB = 0.136$, and the root-mean-square of $(d_{jk} - jk)$ is 0.338 V .