
High Fidelity Color Reproduction on Bubble Jet Printers

B. Ruetz

Canon Information Systems, Inc., Tokyo, Japan

For the artist who produces an image on the computer it is important that the colors on the printed image match the colors on the computer screen. We have provided this color matching between a wide selection of monitors and a number of bubble jet printers. The color matching is computed by interpolating between colors from a printer table, which can be generated with high accu-

racy and is based on the perceptually uniform CIELAB space. Special care is given to generate a high quality gamut mapping which approximates colors which are outside the printer gamut with perceptually close printable colors. This gamut mapping preserves the hue, but allows changes in lightness for the purpose of approximating the high saturation of the out-of-gamut color. Since colors of the same hue in the CIELAB space lie in curved planes, the preservation of the hue is nontrivial. We will present various solutions that address these and other issues of color matching.

Originally published in *Proc. of IS&T's 47th Annual Conference: The Physics and Chemistry of Imaging Systems*, May 15-20, 1994, Rochester, New York.
