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Digital halftones by dot diffusion. (English) Zbl 0637.68118

This paper describes a technique for approximating real-valued pixels by two-valued pixels. The new method, called dot diffusion, appears to avoid some deficiencies of other commonly used techniques. It requires approximately the same total number of arithmetic operations as the Floyd-Steinberg method of adaptive grayscale, and it is well suited to parallel computation; but it requires more buffers and more complex program logic than other methods when implemented sequentially. A “smooth” variant of the method may prove to be useful in high-resolution printing.

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computer graphics; image processing; approximating real-valued pixels by two-valued pixels; dot diffusion; Floyd-Steinberg method; parallel computation; printing

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