

Photographic Tone Reproduction for Digital Images

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UUCS-02-01

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January 14, 2002

Abstract

A classic photographic task is the mapping of the potentially high dynamic range of real world luminances to the low dynamic range of the photographic print. This tone reproduction problem is also faced by computer graphics practitioners who must map digital images to a low dynamic range print or screen. The work presented in this paper leverages the time-tested techniques of photographic practice to develop a new tone reproduction operator. In particular, we use and extend the techniques developed by Ansel Adams to deal with digital images. The resulting algorithm is simple and is shown to produce good results for the wide variety of images that we have tested.