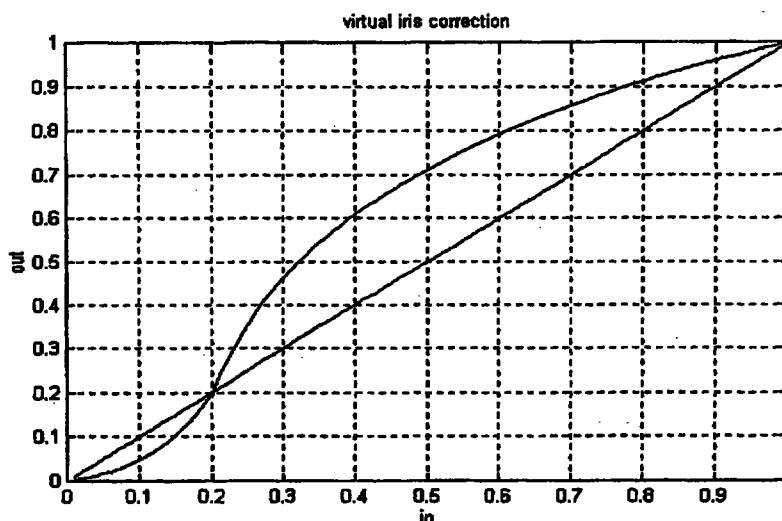




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(54) Title: VIRTUAL TRUE COLOR LIGHT AMPLIFICATION



(57) Abstract

A method is provided for enhancing a digital image without distortion of the color. The result is an adjusted image which preserves the essential color of each and every dot in the input digital image while varying the effective light gathering power – like a virtual flash. The image enhancement is performed in RGB color space and comprises determining the maximum strength of the R, G, and B of a dot's RGB triplet and similarly for all dots. The dot maximums are scaled through a scaling function which is constrained in domain and range to the system's dynamic range. The same scaling factor that is applied to a dot maximum is also applied to each of R, G and B in the triplet. Preferably, a continuous scaling function is provided which smoothly approaches the minimum and maximum of the system's dynamic range for providing an aesthetically pleasing enhancement while maintaining true color. In a forensic embodiment, a portion of the image can be selected in RGB color space and normalized, to substantially the entire dynamic range, thereby emphasizing the area of interest, all without affecting the ratios of R, G and B for maintaining true color.

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