

# EXPLORING HIGH DYNAMIC RANGE IMAGING: §4 RESULTS\*

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Every algorithm produces significantly different results at different speed expenses and different levels of detail degradation. The global algorithm is quick and does not seem to blur fine detail, but it is also the weakest at tone mapping, and produces images with the highest contrast or all of our algorithms. The adaptive gain filter has stronger compression of brightness values but destroys fine details in the image. The stochastic gain control sharpens the edges in the image but adds some noise as well. The adaptive gain filter with edge detection also sharpens the edges but still destroys some of the finer details. The convolution mapping combines the speed and detail preservation of the global mapping with the brightness compression of the adaptive gain mapping.

However, the algorithms presented are still no match for some of the more successful tone mapping methods present today. The Gradient Domain High Dynamic Range Compression by Fattal, Lischinski, and Werman, and the Low Curvature Image Simplifier by Tumblin and Turk prove to have better representation of local contrast and overall “punch” in terms of local tonality and color saturation compared to our methods. Although it is possible to make our images look similar to the results produced by these methods through the use of tools such as curves and manual saturation adjustments in image editing software, it is impossible to get exactly the same visual effect of both local contrast and luminance compression.

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