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# **HOLOGRAPHIC GRATINGS WITH DIFFERENT SPATIAL FREQUENCIES RECORDED ON BB-640 BLEACHED SILVER HALIDE EMULSIONS USING REVERSAL BLEACHES**

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A great deal of research has been carried out over the last decades in order to find the optimum recording materials for holographic applications. Among the materials used for holographic recording purposes, silver halide emulsions are still one of the widely used. They present high energetic and spectral sensitivities, repeatability of results and ease of processing. In this work we show the optimization of a reversal bleach procedure for ultra fine grained BB-640 emulsions. This procedure has been widely used for Agfa 8E75 HD plates and a lot is known about these emulsions. Nevertheless, the same is not in the case for the BB-640 emulsions. Before using and optimizing the different procedures for BB-640 plates it is important to take into account some differences between Agfa and BB emulsions. One of the main difference between these plates is the grain size of the silver halide grains suspended in the gelatin of the emulsion. It will be shown that the use of ultra fine grained emulsions such as BB-640 plates allows us to obtain high efficiency holograms with low absorption and scattering. In particular, we will analyze and optimize a reversal bleach applied to BB-640 emulsions to be used for recording transmission diffraction gratings with different spatial frequencies.

TOPICS + KEYWORDS: Holography, Holographic recording materials, Silver halide emulsions, Diffraction gratings.