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# Objective evaluation of information retrieved from digitally compressed in-line holograms

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## Abstract

Quality of information retrieved from digitally compressed in-line holograms are objectively studied by evaluating the measured recording distance and its reconstructed image. A lossy-JPEG algorithm is used for compression of the in-line Fraunhofer holograms, while the information retrieval is accomplished by using complex amplitude based numerical reconstruction method. The results show that the error in measurement of recording distance and the degradation of the reconstructed image are not significant although the hologram is compressed by about 60 times. This provides a practical solution to the storage and data transfer problems in on-line digital in-line holography.

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