

Developing and demonstrating the investigation of fingerprints on a glass surface by using digital holography technique.

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In this research, a technique of digital holography has been applied to investigation of latent fingerprints on a surface of clear transparent glass plate. In this technique, a CCD camera is put at the image plane instead of photographic film in typical holography. In our technique, a Michelson interferometer has been setup for splitting a laser beam from a semiconductor laser to an image bearing beam and a reference beam for recording a hologram. By using a numerical technique for reconstructing record images from the CCD camera, a sharp result images and their details have been shown. The benefit of this technique may be improved for investigating a fingerprint on the surfaces of different kinds of construction materials such as woods, ceramics, or metals in the future.

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