

# **Surface profile of objects for 3D printers by fringe pattern**

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## **Abstract**

Fringe projection entails projecting a fringe pattern or grating on an object and viewing it from a different direction. It is a convenient technique for contouring objects that are too coarse to be measured with standard interferometry. Fringe projection is related to optical triangulation using a single point of light and light sectioning where a single line is projected onto an object and viewed in a different direction to determine the surface contour (Case et al. 1987). The fringe patterns are projected on to the object surface and the deformed grating image is captured by a CCD camera for subsequent analysis. Phase shifting techniques have been employed to determine the phase value. The phase variation is achieved by using a linear translation stage incorporated to the grating. In this paper, the surface profile of objects for 3D printers is determined by using fringe pattern.

## **Biography**

**Javier Cruz Salgado** BS, Industrial Engineering, Universidad Tecnológica de León, March 2007. MS, Manufacturing and Industrial Engineering, CIATEC/CONACYT, August 2012. PhD Manufacturing and Industrial Engineering 2015, CIATEC/CONACYT. Intern at Materials Research Department CIATEC 2011-2012. Research stay at Illinois Institute of Technology in the Department of Applied Mathematics 2013.