

2D Measuring System with CMOS Area

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Abstract

The aim of this project consists in finding the smallest possible deviation that occurs when the laser beam is incident on the photosensitive cells that build up a complementary metal oxide semiconductor (CMOS) detector. In a CMOS sensor, every pixel's charge is transferred through a very limited number of output nodes (often just one) in order to be converted to voltage, buffered, and sent off-chip as an analog signal. All of the pixels can be devoted to light capture, and the output's uniformity (a key factor in image quality) is high. In this project the process of converting the light into the analog signal is performed by scanning the XY scale. Depending on the intensity of the light that reaches a certain photosensitive area, the CMOS converts the spot position into XY coordinates by monitoring the light intensity.