



Solid-state and Adaptive Beam Steering by Texas Instruments MEMS SLMs for Lidar and AR Display

Yuzuru Takashima

*Professor, SPIE Fellow
University of Arizona*

BIO

Dr. Yuzuru Takashima is a full professor at James C. Wyant College of Optical Sciences of University of Arizona since 2011, pioneering on MEMS-based lidar and AR display systems. He received B.S. in Physics from Kyoto University, and M.S. and Ph.D. in Electrical Engineering from Stanford University. SPIE fellow since 2022. Prior to joining the University of Arizona, he was a research staff at Stanford University on high density holographic data storage systems. He was also a research specialist at Toshiba Corporate Manufacturing Research Center in Japan, designed lens systems, and developed ultra-precision manufacturing process of optical components

ABSTRACT

Beam and image steering by Micro Electro Mechanical System (MEMS) Spatial Light Modulators (SLMs) decouples trade-offs between resolution, field of view and size of displays and optics, a common challenges found in optics such as lidar and AR display. We overview solid state lidar and augmented reality display engine employing MEMS SLMs, Texas Instruments Digital Micromirror Device and Phase Light Modulators.