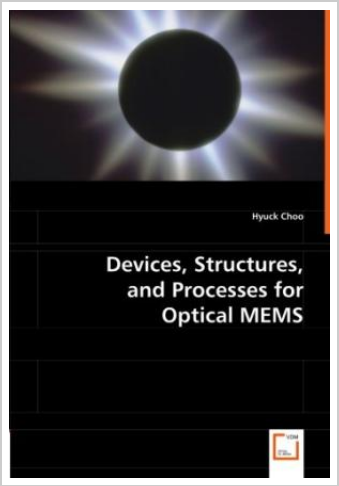

Devices, Structures, and Processes for Optical MEMS

By Choo, Hyuck

Condition: New. Publisher/Verlag: VDM Verlag Dr. Müller | I describe results from my research on optical MEMS at Berkeley Sensor & Actuator Center. High precision microlenses (200~1000?m diameters), fabricated utilizing hydrophobic effects and polymer-printing technology, have 343~7862?m focal lengths and show ?/5~?/80 wavefront aberrations at 635nm. Batch-processed polarization-beam splitters, made from low-stress Si3N4, produced extinction ratios of 16dB and 21dB at ?=635nm for transmitted and reflected light, respectively. Micromachined frequency-addressed microlens array can expand the dynamic range of a Shack-Hartmann (S-H) wavefront sensor beyond 144mrad, an improvement by a factor of 10 over conventional systems. High performance torsional microscanners, produced using our CMOS-compatible high-yield process, demonstrated a high-precision 2-D scan (scanning precision: 1?m on the scan plane). A fast, MEMS-based, phase-shifting interferometer with accuracy of 5.5nm, could continuously measure at rates up to 23Hz, a factor-of-23 improvement over PZT-based phase-shifting interferometers. I hope to leave you convinced, as am I, that opportunities for fruitful applications are extremely widespread in optical MEMS. | Format: Paperback | Language/Sprache: english | 228 pp.

Reviews

Definitely among the best book I have got possibly study. I am quite late in start reading this one, but better then never. Once you begin to read the book, it is extremely difficult to leave it before concluding.

-- ***Olga Ledner MD***

Complete guide for publication enthusiasts. I have read and i am sure that i will going to study again once again in the future. Your way of life period will be transform once you total looking over this publication.

-- ***Shayne O'Conner***