



## Materials, Integration and Technology for Monolithic Instruments: Volume 869 (Paperback)

By -

CAMBRIDGE UNIVERSITY PRESS, United Kingdom, 2014. Paperback. Condition: New. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*. The field of integrated circuits is now on the cusp of a new level of integration that can enable an entirely new class of products - monolithic instruments. These are miniaturized systems which interact with their physical environment in ways traditional integrated circuits cannot, in particular, by combining conventional integrated circuits with novel solid-state components. These systems are enabled by utilizing the extremely precise manufacturing platform that is the integrated circuit wafer fabrication facility. The monolithic instrument concept is quite powerful in that it enables vast cost and size reductions. The papers presented in this book are a subset of what is possible in this field. Section I examines advanced image sensor concepts based on forming the photodetector above the standard CMOS interconnect. Section II focuses on optoelectronic element integration, including critical components for constructing miniaturized spectrometers. Section III features chemical and biological sensing systems. Section IV highlights functional oxides and other materials for monolithic integration.



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