PROCEEDINGS OF SPIE

High Energy, Optical, and Infrared Detectors for Astronomy III

David A. Dorn
Andrew D. Holland
Editors

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Introduction

Astronomical Telescopes and Instrumentation again combined the visible, infrared, and high energy detector sessions into a single conference. This combination resulted in a rich variety of applications and detectors being presented by the community. This combination also provided an excellent overview of the leverage of detector technologies and methods across the photon energy spectrum, where many of the detection techniques and methodologies are common.

Seventy-seven papers were presented over four days. Session attendance was high through the conference. This reflects on the excellence of presented material, the presenting authors, and the relevance of the conference to present-day astronomy. The large response to the request for papers also resulted in a large number of poster papers (approximately 40% of all papers) and adding an additional day to the oral presentations.

The presentations covered detector performance, both theoretical and experimental, detectors in instruments and camera systems, sophisticated new controllers and software, packaging of very large detector mosaics, radiation testing, and the future direction of sensor technologies.

Over the years, proceedings like these have been an invaluable output and record of SPIE meetings. They represent a current snapshot of detector technologies. This year's conference chronicled the advancement of CCD technology to even higher quantum efficiencies across the range of silicon response, novel readout structures to meet a wider variety of applications, and packaging of detectors into even larger mosaics. While CCD detector technology is mature, improvements continue to be made, allowing their use into a wider variety of applications and across a broader spectral range. It also showed the continued development and improvement of CMOS readout and active pixel sensor technologies that are utilized in infrared, visible, and high energy applications. Performance data presented from CMOS visible active pixel sensors indicates its rapid advance. It now rivals state-of-the-art CCD detectors in many applications. Detailed CMOS detector characterization data shows increased understanding of the nuances associated with this technology and provides opportunities to achieve the next level of higher performance. We hope the detailed information presented here will contribute to further advancements in all detector technologies.

Such a successful meeting could not have taken place without the support and help of many people, especially all of you whose names appear on the papers collected here. We acknowledge the valuable advice and assistance for structuring the conference and chairing the sessions given to us by the Program

Committee and would especially like to thank Morley Blouke, Markus Loose, Caroline Kilbourne, and Paul Jorden for their assistance in chairing some of the sessions.

David A. Dorn
Andrew D. Holland