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Remote Sensing System Engineering IV

**Philip E. Ardanuy
Jeffery J. Puschell
Hal J. Bloom**
Editors

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Introduction

This volume contains the proceedings for Remote Sensing System Engineering IV held in San Diego, California on 12 August 2012, as part of the Optical Engineering + Applications section of SPIE Optics +Photonics. This fourth RSSE conference resumed the series started in 2008, following an interruption in 2011.

The overarching goal of the conference was to provide a forum for exchanging critical lessons learned and best practices in the systems engineering of ground-, air-, and space-based remote sensing systems. Additional goals were to enable sharing existing and emerging design approaches, engineering methods, tools, and future trends for engineering of remote sensing systems.

Topics included: (1) systems engineering best practices and lessons learned; (2) system architecture and design; (3) requirements, performance metrics, and measures of success; (4) modeling and simulation tools and methods; (5) design and integration of distributed architectures; (6) use of commercial assets in future remote sensing systems; (7) bridging and balancing across the science-to-engineering and technologist-to-end-user valleys of "death and lost opportunities"; and (8) the end user, effective data/information/system utilization, and optimum return on investment.

A total of 19 papers were presented in five sessions, including a poster session. A diverse group of international researchers from government, academia, and industry participated in the conference. The range of topics presented in this conference continued to grow and included very timely and exciting papers on system engineering of CubeSat-based imagers for environmental imaging and remote sensing that offer promise for significant cost and schedule reduction in developing future remote sensing systems, discussion of lessons learned from the recent CHIRP hosted payload mission for the USAF and a next-generation along-track scanning radiometer called SLSTR along with system simulation approaches for assessing contributions of future operational remote sensing systems to weather forecasting, a new multispectral imager based on computational optics methods and a description of plans for testing a calibration demonstration system for instruments measuring reflected sunlight in future climate monitors.

We thank all of the participants who made this conference successful, especially the cochairs, program committee, and authors.

Jeffery J. Puschell
Philip E. Ardanuy

