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Observatory Operations: Strategies, Processes, and Systems VI

Alison B. Peck
Robert L. Seaman
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Introduction

This conference provided a forum for discussion of a broad range of issues relevant to the operation of ground-based and space observatories, including observing/support models, calibration, data-reduction/archiving, quality control, engineering and infrastructure, fault-handling, productivity, and staffing.

While every ground and space observatory has its own individual and unique characteristics, each shares with the others a common need to execute technical and science operations in the most efficient and cost-effective way possible. This need is driven by the upward pressure from users for more services and capabilities in opposition to the downward pressure by funding agencies to contain or reduce costs. Tension at the interface between users and funders is particularly acute in this time of global economic turmoil. At the same time the technical and logistical challenges are growing with the systems and network complexity of new observing modes, coordinated multi-facility and multi-messenger observing campaigns, fully or partially robotic facilities, integrated instrument pipelines and science archives, and the need to integrate more complex cyber-infrastructure such as the Grid and the Virtual Observatory. The subtle intricacies and mega-scales of new instrumentation demand correspondingly creative operations modalities.

Building on previous successful conferences, we gathered to continue discussions of lessons learned, progress made and future initiatives. As before, we were particularly interested in discussions of what works versus what does not work, as well as what was planned versus what actually happened. Discussion of the interplay of science operations, technical operations, data management operations, and observatory development is particularly encouraged—especially as it impacts the maximization of science value return. The relationships amongst available funding, delivered capabilities/services, and user expectation management and how that informs observatory operations models were other important discussion topics. Demand for support of time-domain observations is steadily increasing as well, driven by the desire to study rare, random events as well as long-term, synoptic phenomena. Such studies are particularly challenging when they require coordination, often unpredictable, between multiple space and ground-based observatories. While this trend has recently been driven by space-based detections of gamma ray bursts, the startup of ground-based time-domain survey facilities (ramping up to the Large Synoptic Survey Telescope in the second half of this decade) will quickly take this challenge to a new level. Progress reports from new facilities coming online and existing facilities facing major new operational challenges were particularly solicited.

This volume contains the contributions, both oral and poster, to this conference from the international community.

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