Special Issue

Software and Systems Engineering in Astrophysics

Message from the Guest Editor

This Special Issue aims to explore the challenges, methodologies, and innovations in software and systems engineering within the field of astrophysics. Modern astrophysical observatories, both ground-based and space-borne, rely on increasingly complex software infrastructures to support observation scheduling, data acquisition, instrumentation control, pipeline automation, and long-term data preservation. As scientific goals become more ambitious and systems more distributed, rigorous engineering practices are essential for ensuring the reliability, maintainability, and performance of mission-critical software. We welcome contributions addressing software architectures, real-time systems, control software for astronomical instrumentation, workflow orchestration for data processing, model-based systems engineering (MBSE), DevOps practices adapted to scientific environments, and innovative solutions for open-source collaboration in astrophysics.

Guest Editor

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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