Computational Astrophysics and Cosmology

Simulations, Data Analysis and Algorithms

Editor-in-Chief: S. Portegies Zwart

- Publishes papers on computer-supported modeling, computation-intensive data analysis, computer tools, software and algorithm design
- Features tool-analysis, transparency and verifiability of original results

Computational astrophysics opens new windows in the way we perceive and study the heavens. This rapidly growing new discipline in astronomy combines modern computational methods, novel hardware design, advanced algorithms for both simulations and data analysis, original software implementations and associated technologies to discover new phenomena, and to make predictions in astronomy, cosmology and planetary sciences.

In the journal Computational Astrophysics and Cosmology (CompAC) we unify two distinct groups of disciplines:

- Astronomy, planetary sciences, physics and cosmology
- Computational and information science

The combination of these disciplines leads to a wide range of topics which, from an astronomical point of view, cover all scales and a rich palette of statistics, physics and chemistry. Computing is interpreted in the broadest sense and may include hardware, algorithms, software, networking, reduction and management of big data resulting from large telescopes and surveys, modeling, simulation, visualization, high-performance computing, data intensive computing and machine learning.

CompAC publishes novel full-length research articles, letters-to-the editor, comprehensive reviews, and concise manuals describing best practices in scientific computing and software reports.

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