

## Special Issue on Astronomical Massive Data Processing Technology

# CALL FOR PAPERS

Astronomy has become one of the biggest consumers of computing resources in the past 10 years. Therefore, new computational solutions (both hardware and software) are emerging, dedicated to the various fields of science. For example, in radio astronomy, instruments are becoming extremely large, much like the Square Kilometre Array (SKA) and its precursor telescopes. Comprising of thousands of antennas, these radio telescopes generate huge amounts of data that have to be analyzed in a timely manner. As a result, large-scale systems (both distributed and centralized) are employed for data gathering, filtering, analysis, and imaging.

Thus, it is expected that astronomical experiments will become larger in all dimensions: larger data collections, more accurate data analysis and processing, and more detailed results (i.e., imaging). The significant increase of these large-size experiments performed by instruments built around the world requires not only huge processing power, but also clever system design, all the way from hardware construction to software development and deployment.

This special issue is dedicated to fully explore the data analysis and processing technology for astronomical data, as well as relevant astrophysical studies including data processing approaches or techniques. We also hope to attract original research articles as well as review articles which describe current research on technology in the field of massive data processing.

Potential topics include but are not limited to the following:

- ▶ Generic study of astronomical massive data processing
- ▶ Algorithm and new technology for astronomical massive data processing
- ▶ High performance computing /cloud computing/distributed computing for astronomical data processing
- ▶ Massive data storage and relevant technology
- ▶ Astronomical instruments and relevant technology

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/aa/adpt/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

### Lead Guest Editor

Feng Wang, Guangzhou University,  
Guangzhou, China  
[fengwang@gzhu.edu.cn](mailto:fengwang@gzhu.edu.cn)

### Guest Editors

Wenda Cao, Big Bear Solar Observatory,  
Big Bear, USA  
[wcao@bbsi.njit.edu](mailto:wcao@bbsi.njit.edu)

Denis Bastieri, Padova University,  
Padova, Italy  
[denis.bastieri@unipd.it](mailto:denis.bastieri@unipd.it)

Junhui Fan, Guangzhou University,  
Guangzhou, China  
[fjh@gzhu.edu.cn](mailto:fjh@gzhu.edu.cn)

Chenzhou Cui, National Astronomical  
Observatory, Beijing, China  
[ccz@nao.cas.cn](mailto:ccz@nao.cas.cn)

### Submission Deadline

Friday, 15 March 2019

### Publication Date

August 2019