



## Editorial

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Compact objects are celestial systems under extreme conditions and the study of compact objects reveal the exotic nature of physical phenomena. Over the past four decades, starting from the first discovery of radio pulsar, our understanding of the subject has advanced enormously due to observational data from many sophisticated ground-based and space-based telescopes. India's first multi-wavelength astronomy satellite, AstroSat, is going to enrich our understanding even further. Compact objects do show activities over entire electromagnetic spectrum and our knowledge so far is based on electromagnetic radiation only. But the direct detection of gravity wave in September 2015 as well as very recent discovery of gravity wave with electromagnetic counterpart from a short gamma ray burst due to merger of neutron star binary, has opened a new window to the study of compact objects.

The initiation of a national conference series on compact objects was started in early 2013 and the purpose was to arrange a gathering involving students, researches and the leading experts of the field. This allows researchers to exchange their ideas and new results with others and hence, new PhD students get opportunity to interact with the exponents in the subject. Also, the other motivation was to develop interest about the subject among the younger generations that helps to enlarge the community required to handle the huge volume of data coming from AstroSat observations. Keeping this in mind, the first conference was held at Indian Institute of Technology Guwahati (IITG), Guwahati in 2013 and the second one was organized by Aryabhata Research Institute of Observational Sciences (ARIES), Nainital in 2015. There was a demand to organize the next meeting of this biannual series in the southern part of the country and Kerala, "Gods Own Country" was a natural choice.

The 3rd conference on "*REcent Trends in the Study of Compact Objects – Theory and Observation (RETCO-III)*" was organized by Indian Institute of Space Science and Technology (IIST), Thiruvananthapuram during

5–7 June 2017. A total of 62 scholars from different research institutes/universities/colleges attended the conference where all the participants gave oral presentations. One special inaugural lecture was arranged on gravity waves followed by nine sessions on different aspects of compact objects. The first session was dedicated towards theoretical studies on compact objects followed by two sessions on X-ray binaries. The second day of the conference started with a session on gamma ray burst which was followed by the sessions on supernovae as well as the study of active galactic nuclei. On the final day of the conference, a session on blazars and the study of jets and instabilities was organized. Several lectures were presented based on very recent results obtained from AstroSat as well as other national/international facilities.

The outcome of RETCO-III is being published as a Special Issue in *Journal of Astrophysics & Astronomy (JAA)*. All articles in this special issue are peer-reviewed by *JAA*. There are articles with updated results which will be valuable to the interested researchers. Moreover, this issue also contains scientific articles with new results on the respective topics.

Finally, we express our gratitude to IIST for the financial support. Dedicated efforts from several people have gone behind to organize this conference. We acknowledge the contributions of every individuals, in particular, the local organizing committee, the scientific organizing committee, Master/PhD students of astronomy and supporting staffs of IIST. We are thankful to *JAA* for agreeing to publish articles which were based on the presentations in the conference and we also hope that this special volume will be useful to the researchers.

*Guest Editors*

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