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Preface

This issue of *Astronomical and Astrophysical Transactions* comprises papers presented at the *ICRANet–Isfahan Astronomy Meeting: From the Ancient Persian Astronomy to Recent Developments in Theoretical and Experimental Physics, Astrophysics and General Relativity*, which was held virtually (due to COVID global pandemic) on 3–5 November 2021. The meeting was organised as a joint collaboration between Isfahan University of Technology (IUT) and International Center for Relativistic Astrophysics Network (ICRANet).

Iran, with the Ulugh Beg map of fixed stars proposed by Abd al-Rahman al-Sufi (Azophi) around 964 CE, was among the first countries centuries ago to extend the knowledge of our Universe outside our planetary system. Persian astronomers made very important contributions to the fields of astronomy with the construction of the Maragheh Observatory in 1259 CE and Ulugh Beg Observatory in the 1420s. Ancient astronomy in Iran has created a background for modern research work in Iranian universities and research centers. In 2022, the Iranian National Observatory (INO) world-class 3.4-m optical telescope records its first light and gives the opportunity to a new generation of Iranian scientists to explore the cosmos.

Isfahan, an ancient, beautiful and historical city in the center of Iran hosts the first in a series of ICRANet–Isfahan Astronomy Meetings. The aims and objectives are to provide new opportunities for collaborations and discussions about astronomy from the historical aspects of ancient Persian astronomy to recent developments in observational astronomy, high energy astrophysical phenomena including Gamma-Ray Bursts (GRBs) and Active Galactic Nuclei (AGNs), Theories of Gravity, General Relativity and its Mathematical Foundations, Black Holes, Supernovae, Dark Matter and Early Universe Cosmology.

This first ICRANet–Isfahan Astronomy Meeting invited 33 speakers from 16 countries including Argentina, Armenia, Australia, Chile, China, Denmark, France, Germany, Iran, Italy, Kazakhstan, New Zealand, Russia, Sweden, UK, USA and this delivered a very active and international scientific programme with outstanding contributions and provided a forum for fruitful exchanges and discussions and collaborations. In addition, there were more than 190 registered participants and attendees worldwide making this a most important and significant meeting in Iran in the field of relativistic astrophysics.

Remo Ruffini, Yousef Sobouti, Soroush Shakeri
Guest Editors



The Khaju Bridge crossing Zayandehrud River of Isfahan, which was built around 1650 during the reign of Shah Abbas II, the Persian Safavid King.

Isfahan, a major city in central Iran, was the splendid capital of the Seljuq and Safavid dynasties whose legacies established Iran (formerly Persia) as the cultural heart of the eastern Islamic world in terms of language (Persian), art, and architecture. The Safavid period (1501–1736) was particularly decisive for shaping the city, whose beauty was so great that world travelers purportedly dubbed it "Half the World". Nowadays Isfahan is considered as one of the most important scientific, industrial and cultural centers of Iran.