

京师悟天学术论坛

The Earth 2.0 (ET) Space Mission

摘要 | The Earth 2.0 (ET) Survey Mission is one of the four space missions in the China's Space Origins Exploration Program. It is scheduled for launch in the winter of 2028, with the goal of deploying a dedicated space observatory at the Sun–Earth L2 point to systematically search for Earth-like exoplanets. The mission will be equipped with six wide-field transit telescopes and one microlensing telescope, using large-format CMOS detectors to achieve ultra-high-precision photometric observations. During its four-year prime mission, ET will continuously monitor over two million nearby late-type dwarf stars to search for transit signals, while in the summer seasons it will observe about 30 million stars in the direction of the Galactic bulge to detect microlensing events. Simulation studies suggest that ET could, for the first time, discover about 17 Earth analogs and approximately 25 free-floating Earths, along with more than 4,000 terrestrial planets and tens of thousands of other types of exoplanets. This report will present the mission design, key technological innovations, and the significant potential impact of ET in advancing the search for Earth-like planets and the broader fields of exoplanet science, asteroseismology, stars and galactic archeology and time domain science.



时间 | 11月5号

10:00–12:00 学术报告

13:00–16:00 座谈交流

地点 | 物理楼 106

报告人 | 葛健 教授
中科院上海天文台

Dr. Jian Ge is a Chair Professor at the Shanghai Astronomical Observatory, Chinese Academy of Sciences. He previously served as a Professor at the University of Florida (2004–2020), an Assistant Professor at Pennsylvania State University (2000–2004), and a Postdoctoral Researcher at Lawrence Livermore National Laboratory (1998–2000). He earned his Ph.D. in Astronomy from the University of Arizona in 1998. He is the Principal Investigator (PI) of China's Earth 2.0 space mission and previously served as the PI of the MARVELS survey under the SDSS-III program. His research interests span exoplanets, observational cosmology, astronomical instrumentation and technology, and artificial intelligence applications in astronomical big data. Dr. Ge's team has made numerous discoveries of planets, brown dwarfs, binary systems, asteroids, and various types of quasar absorbers. He has published 157 refereed journal papers and 121 technical papers and holds three U.S. patents.