

# 学术报告会

时间：2011年5月5日下午4：00

地点：南京天光所(板仓街188号) 二楼学术报告厅

报告题目：**Space Astrometry and Detection of  
Nearby Earth-Twins**

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## 内容简介：

Detection of Earth-Twins is the one of the most exciting hot topics in modern astronomy and in public domain. So many observatories, so many space missions, and so many different techniques, including RV, photometry, imaging, occultation, interferometers, adaptive optics etc., have been dedicated to detection of exoplanets. So far hundreds of exoplanets have been discovered and a few of them are claimed to be super-earth planets. The fact is, however, that most of them are candidates of extra-solar planets only, and need further verification simply because of that their fundamental physical quantity, mass, is unknown. The precision RV technique may reach 10 cm/s for instrument errors. But the astrophysical noises from star spots, pulsation and intrinsic RV variations prevent the possible detection of nearby Earth-like planets. In addition, some missions may provide statistics of Earth-like planets and cannot detect Earth-like planets for nearby stars which are extremely important for future imaging and spectroscopic investigations. Space astrometry, however, is the only technique, which can have precision of 0.1  $\mu$ s to detect Earth-Twins, and can provide orbits and ephemeris of Earth-Twins for nearby solar-type of stars.

The lecturer will present latest results of detection of exoplanets and demonstrate error estimates of different techniques. In particular, he is going to show interferometric precision and accuracy for wide-angle and narrow-angle astrometry. He will compare different space astrometry missions and discuss challenges and status of space astrometry for detection of Earth-Twins.

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学术委员会  
二〇一一年五月四日