
Optical Design of a 10m Aperture Space Telescope

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Large aperture space telescopes have various advantages including higher resolution, better light gathering ability and immune to atmosphere interfering. To meet the growing demand of astronomical observation of studying the early universe forming and searching terrestrial planets, the aperture of space telescope may reach 10m-scale in the next decade.

The main feature of next generation space telescope optical system includes the large aperture segmented primary mirror and wavefront sensing control system, which need to be considered during the designing procedure.

In this talk, the optical design of a 10m aperture space telescope will be presented, the main considerations of designing procedure will be introduced, and the tolerance and imaging quality will be analyzed. Also, a brief introduction of the active optic system wavefront sensing and control procedure will be introduced.

Short Bio:



Boqian Xu is an associate research fellow at the Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, as the director of Innovation Laboratory of the Third Space Optics Institute. He graduated from Harbin Institute of Technology with a master's degree of engineering in 2008. He was awarded a PhD by the University of Chinese Academy of Sciences in 2015. Currently he is working on the optical system design and active optical system development.