UNIVERSITY OF MACAU

FACULTY OF SCIENCE AND TECHNOLOGY

DEPARTMENT of

CIVIL AND ENVIRONMENTAL ENGINEERING

" Research of key technology of primary mirror hydraulic supporting system "

by

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Venue: **E11 – 1009**

Abstract

Large scale reflecting telescope is a technology-intensive equipment in many fields such as national security, space detection, universe exploration. They are usually equipped with large diameter primary mirrors, which guarantee them with stronger light gathering power and high resolution, to explore instant galaxies from hunderds of millions of light year away. In this context, this talk will firstly introduce the difficulties when designing a hydraulic support system for large scale primary mirrors. Secondly, the supporting stiffness of a hydraulic support system is analyzed. Thirdly, the methodology for the precise position control of a support system shall be discussed. Finally, the future directions with critical research areas in field of hydraulic support system for a primary mirror shall be highlighted.

Biography

Dr. Xiongbin Peng is currently working as an Assistant Professor in Department of Mechatronics Engineering at Shantou University. He received his PhD degree in Mechatronic Engineering from Zhejiang University, Hangzhou, China in 2016. His main research interests include Thermal Management Design for Energy Storage Systems, Position Control of Primary Mirror Hydraulic Support System. He has worked jointly with Changchun Institute of optics, fine mechanics and physics, Chinese Academy of Sciences for 2 years on high stiffness design and precise position control of primary mirror hydraulic support system. He is the co-founder of Product Design Research Groups (PDRG, www.pdrg-group.org) involving collaborators from 12 countries. Through his research group, he has experience of supervising 3 undergraduate and 2 post graduate students.

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