应用光学 2005 26 (5): 004-006 ISSN: 1002-2082 CN: 61-1171/O4

测试技术

多光谱光学系统光轴平行性组合测试装置

詹启海,常本康,富容国

南京理工大学电子工程与光电技术学院，江苏南京210094

收稿日期 修回日期 网络版发布日期 2006-8-14 接受日期

摘要 介绍一种激光、白光和热像仪(或微光)三光合一观测仪器的捆绑式新型组合测试装置及其测试原理，并详细叙述了用该装置测试“三光”
光轴平行性的过程和注意事项。该装置十字分划线的设计未采用常规的玻璃刻线工艺，
而是选取电阻率较高的钨丝制成十字分划线，并在分划线的两端焊上电极，
避免了测试时由于更换十字分划线靶标而可能产生的误差。该装置通过对观测仪器光轴平行性的检测和调试，为精确调校提供了依据，从而使3种光学系统的光轴平行性达到所需精度要求，
对保证观瞄及测距的方向一致性起到了准确指示的作用。

关键词 读数装置 光轴 测试装置 光学系统

分类号

Optical Axes Boresight Instrument for Multispectral Optical System

ZHAN Qi-hai,CHANG Ben-kang,FU Rong-guo

Nanjing University of Science and Technology,Nanjng 210094,China

Abstract A test equipment for boresighting the three optical axes of the ground based observing and aiming system that consists of laser, day light, IR(or low level light) sensors is introduced. Its test principle and process to measure the optical axes boresight of the three sensors mentioned above are described in details. During the design of the line graticule, we did not use the ruling technique on glass, but selected W wire to make the LOS and welded two electrodes at the two ends respectively. This design can avoid any possible error caused by the replacement of the cross line graticule observation when a multispectral optical system is tested. This equipment provides a foundation for precision adjustment by detecting and testing of the optical axis boresight in the multispectral optical systems, accordingly making the optical axis bore sight of the three optical sensors fulfill the boresight accuracy requirement of the system instrument and ensuring the direction consistence of observation aiming and range finding.

Key words reading instrument optical axis test instrument optical sensors

DOI:

通讯作者 詹启海 詹启海