应用光学　2008 29 (3): 374-379　ISSN: 1002-2082　CN: 61-1171/O4

计量测试

新型动态多光学目标模拟装置研究

马军[1],何煦[1,2],韩冰[1,2]

1.中科院长春光学精密机械与物理研究所，吉林长春130033；2.中科院研究生院，吉林长春130033

收稿日期　修回日期　网络版发布日期 2008-6-5　接受日期

摘要　介绍了多光学系统观测平台的检测方法现状，
列举了现有检测用光电靶标的局限性。叙述了动态光学靶标的功能原理，提出一种新的检测设备，
即双光源动态光电目标模拟装置的设计方案。并对其进行了理论分析和可行性论证。着重对坐标变换过程进行了演算，
证明基准转换的正确性。结合理论基础和现有的工程设计经验，
论述了该新型双光源动态光电目标模拟装置的工程化设计方案。最后对该设计方案的最终精度进行了分析，
验证了该设计方案可以满足多光学系统观测平台的综合检测和标定需求。

关键词　光电综合跟踪设备　精度输出　模拟目标　动态目标模拟装置

分类号　TH745.1　TN98

Novel dynamic optical multitarget simulation system

MA Jun[1],HE Xu[1,2],HAN Bing[1,2]

1. Changchun Institute of Optics, Fine Mechanics and Physics, CAS, Changchun 130033, China; 2.Graduate School of CAS, Beijing 100039, China

Abstract The test facility status for multiple optical systems is introduced, and the limitation of existing test targets is explained. The principle of the dynamic optical target simulation system is discussed. A new testing equipment is proposed to overcome the limitation. The feasibility of the new solution is analyzed theoretically. The coordinate transformation process was calculated, and the feasibility of new dual-light-source dynamic optical target was validated. The engineering design scheme for the simulation system of the dual-light-source dynamic optical target was elaborated. The error analysis was carried out. The scheme which could meet the test and calibration demands of the test facilty of the multiple optical system was proved.

Key words optoelectronic tracking equipment　accurate output　simulated target　simulation system of dynamic target

DOI:

通讯作者　马军 911max@sina.com