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计量测试

大口径光学玻璃光学均匀性干涉绝对测量方法

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摘要 在光学透射材料均匀性测量的各个方法中，干涉测量方法作为绝对测量方法，
能摈除干涉仪标准面及待测元件的面形影响，
具有很高的测量精度而逐渐被广泛使用。详细研究了使用干涉手段测量透射材料均匀性的方法，
对其中材料切割角度所引入的误差进行了详细分析，
并提出修正方法。同时研究了测量光学材料均匀性的拼接算法，
实验表明：该方法可以实现用小口径干涉仪测量大口径玻璃材料的光学均匀性的目的，而且其测量精度很高。

关键词 干涉测量 光学玻璃均匀性 绝对测量误差 拼接算法

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Interference absolute measurement for homogeneity of large-aperture optical glass

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Abstract As an absolute measurement for the homogeneity of optical glass, the interference measurement is widely used because it can eliminate the form errors of both the interferometer reference surface and the part to be measured. The interference method to measure the homogeneity of optical glass was investigated, the error induced by material cutting angle was analyzed, and the method to correct the error was proposed. The stitch algorithm to measure the homogeneity of optical glass was also studied. The accurate measurement for the homogeneity of large-aperture optical glass was realized with a small-aperture interferometer.

Key words interference measurement homogeneity of optical glass error of absolute measurement splice algorithm

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