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论文

透0.45μm～1.6μm反8μm～12μm宽光谱分色滤光片的制备

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摘要：

光谱分色滤光片对成像光谱技术至关重要，是实现光电仪器体积小、质量轻的一个重要器件。根据金属膜具有高反射率的特点和可以进行诱增透的原理，介绍了透0.45μm～1.6μm反8μm～12μm光谱分色滤光片的膜料选择和膜系设计，并应用JGP560A2型磁控溅射镀膜机制备出了光谱性能和理化性能较好的宽光谱分色滤光片，其光谱性能达到0.45μm～1.6μm波段范围内，平均透过率大于80%；8μm～12μm波段范围内，平均反射率大于91%。

关键词： 分色滤光片;诱增透;磁控溅射

Spectrum filter for transmitting in 0.45μm～1.6μm and reflecting in 8μm～12μm

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Abstract:

Spectrum splitting filter is a key element for imaging spectrum technique. Based on the high reflection feature of the metal film and induced transmission theory, a novel element transmitting in 0.45μm～1.6μm and reflecting in 8μm～12μm was introduced. The deposition materials and the film design were presented. By using JGP560A2 magnetron-sputter deposited device, the element was produced and its optical characteristics were tested. Its average transmission ratio is more than 80% in 0.45μm～1.6μm, and average reflection ratio is more than 91% in 8μm～12μm.

Keywords: spectrum splitting filter; induced transmission; magnetron-sputter technique

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