

High Reflectivity Multilayer Mirror for He-II Radiation at 30.4nm in Solar Physics Application

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The SiC/Mg and B4C/Mo/Si multilayers were designed and fabricated for He-II radiation at 30.4 nm. The measured reflectivities were 38.0% for SiC/Mg multilayer at incident angle of 12 degree, and 32.5% for B4C/Mo/Si multilayer at 5 degree, respectively. The aperiodical multilayer designed for high reflectivity at He-II (30.4 nm) and anti-reflectivity at He-I (58.4nm) was also fabricated and measured. The reflectivity at 30.4 nm and 62 nm is 38% and 0.2%, respectively. The reasons of wavelength position deviating from the designed value (58.4 nm) are discussed.

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