

Tyler Naibert and Charles Kankelborg
Montana State University

Ni/Mg multilayer mirror for 30.4 nm light

We report progress toward a Ni/Mg multilayer coating for high reflectance at 30.4 nm. Using a Ni/Mg interlayer structure with 16.0 nm period and Gamma of 0.75, we hope to achieve a reflectivity of greater than 25%. Rutherford backscattering spectroscopy (RBS) and X-ray photoelectron spectroscopy (XPS) depth profile measurements of trial coatings revealed alloying between the layers. We have addressed this problem by adding a 0.5 nm Ti interlayer, and are preparing to test reflectivity.