

Graded Multilayers for High-Energy Astrophysical Telescopes

Fiona A. Harrison

Caltech
Pasadena, CA 91125

The application of graded Multilayer optics to astrophysical telescopes is relatively recent, and opens up the potential for important new observational capabilities. In particular, in the hard X-ray and soft gamma-ray band (the energy range from 10 to a few hundred keV), the dramatic improvement in sensitivity, and the ability to use compact detectors with excellent spectral resolution open up exciting investigations in nuclear line science and observations of compact objects. I will review the basic design principles of graded multilayer telescopes for hard X-ray and gamma-ray astrophysics, discuss planned balloon and satellite experiments incorporating this technology, and present prospects for future developments.