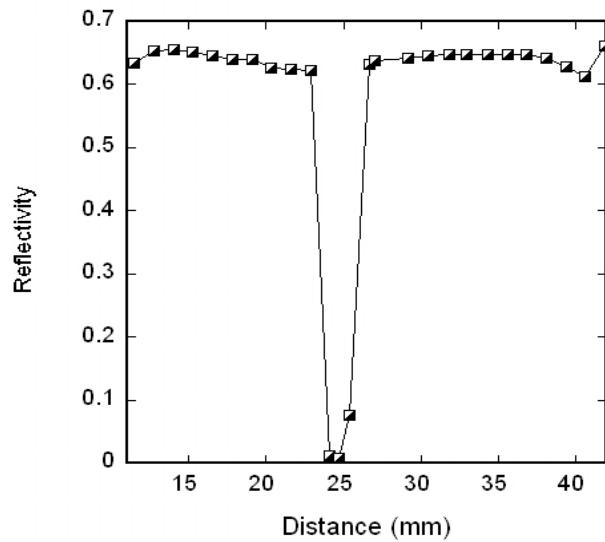
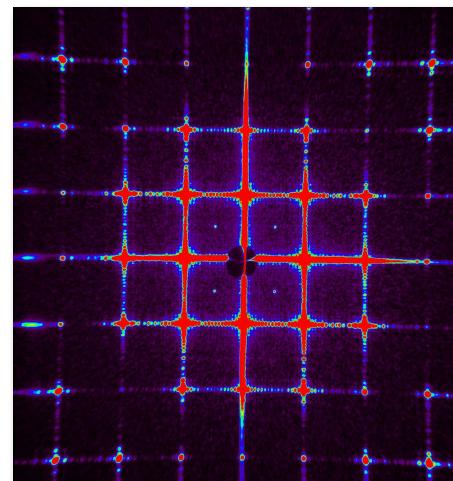


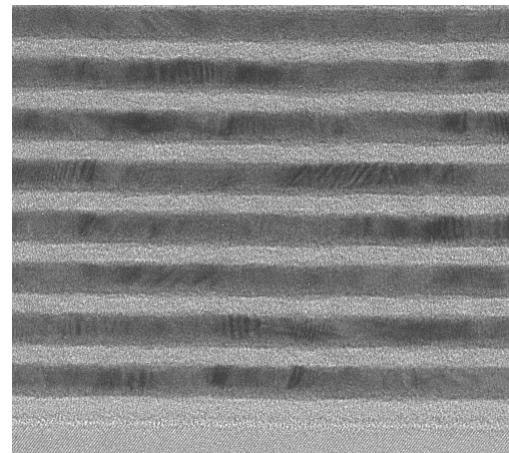
Multilayer coated mirror with high lateral gradient. The red line indicates the line scan direction.



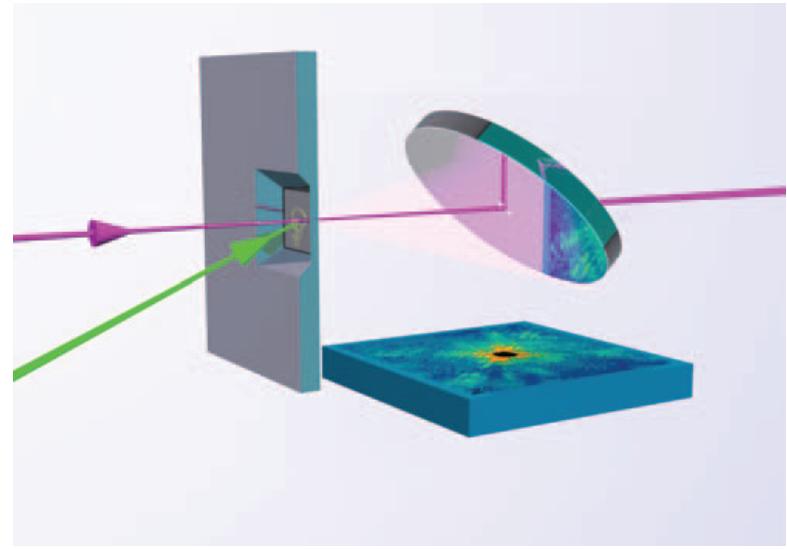
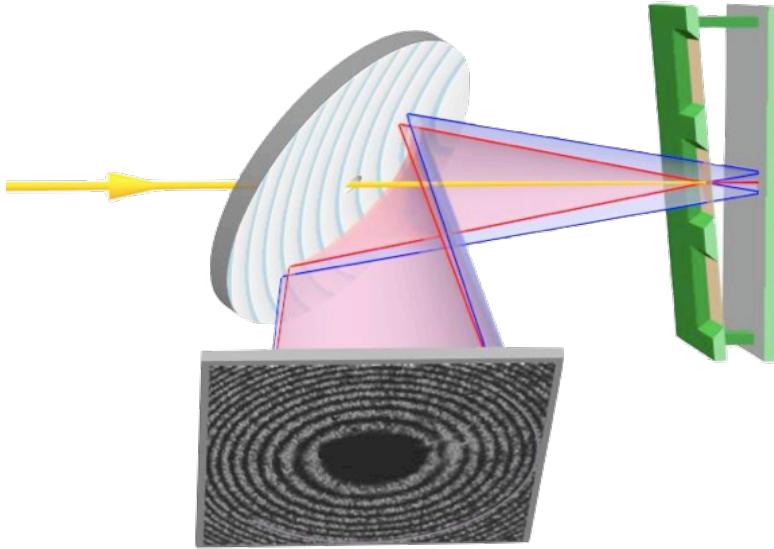
Reflectivity variation across the optic (see above). Low reflectivity is coincident with the hole in the center of the optic.



Multilayer mirror reflects uniformly across 30 to 60° gradient.  
Such mirrors were developed for wavelengths between 4 and 35 nm.



High resolution TEM image of a multilayer in cross section.



Our multilayer mirrors enabled new science at FLASH. Mirrors shown here require large lateral thickness gradients with atomic precision and stress control.

List of publications related to this work:

- H.N. Chapman et al., *Nat. Phys.* **2** (2006) 839
- H. N. Chapman et al, *Nature* **448** (2007) 676
- A. Barty et al., *Nature Photon.* **2** (2008) 415
- S. Bajt et al., *Appl. Opt.* **47**(2008)1673