



**Chandra X-ray
Observatory Center**

Harvard-Smithsonian Center for Astrophysics
60 Garden St. Cambridge, MA 02138 USA
<http://chandra.harvard.edu>

4U 1916-053: A binary system with a neutron star and companion located about 29,000 light years away.
(Credit: Spectrum: NASA/CXC/University of Michigan/N. Trueba et al.; Illustration: NASA/CXC/M. Weiss)

Caption: Scientists using Chandra data have found evidence for an effect predicted by Einstein called gravitational redshift in a pair of orbiting stars across the Galaxy. Previously, astronomers found incontrovertible evidence for this phenomenon in our Solar System, but it has been challenging to observe it in more distant objects. The Chandra data show this effect in the spectra, or amounts of X-rays across wavelengths of 4U 1916-053. Shifts of the signatures of iron and silicon are seen. This system contains a neutron star and companion star in a remarkably close orbit.

CXC operated for NASA by the Smithsonian Astrophysical Observatory
