



**Chandra X-ray  
Observatory Center**

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

**J122104 and J140737:** Two pairs of merging supermassive black holes  
(Credit: X-ray: NASA/CXC/Univ. of Victoria/S.Ellison et al.; Optical: SDSS )

**Caption:** This graphic shows two of five new pairs of supermassive black holes recently identified by astronomers using a combination of data from Chandra (blue shown in inset), WISE, and the Large Binocular Telescope. Each pair contains two supermassive black holes weighing millions of times the mass of the Sun. These black hole couples formed when two galaxies collided and merged with each other, forcing their supermassive black holes close together. This discovery could help astronomers better understand how giant black holes grow and how they may produce the strongest gravitational wave signals in the Universe.

**Scale:** The Image of J122104 is about 3 arcmin (~760,000 light years) wide. The image of J140737 is about 3 arcmin (~1.5 million light years) wide.

*Chandra X-ray Observatory ACIS Image*  
*CXC operated for NASA by the Smithsonian Astrophysical Observatory*