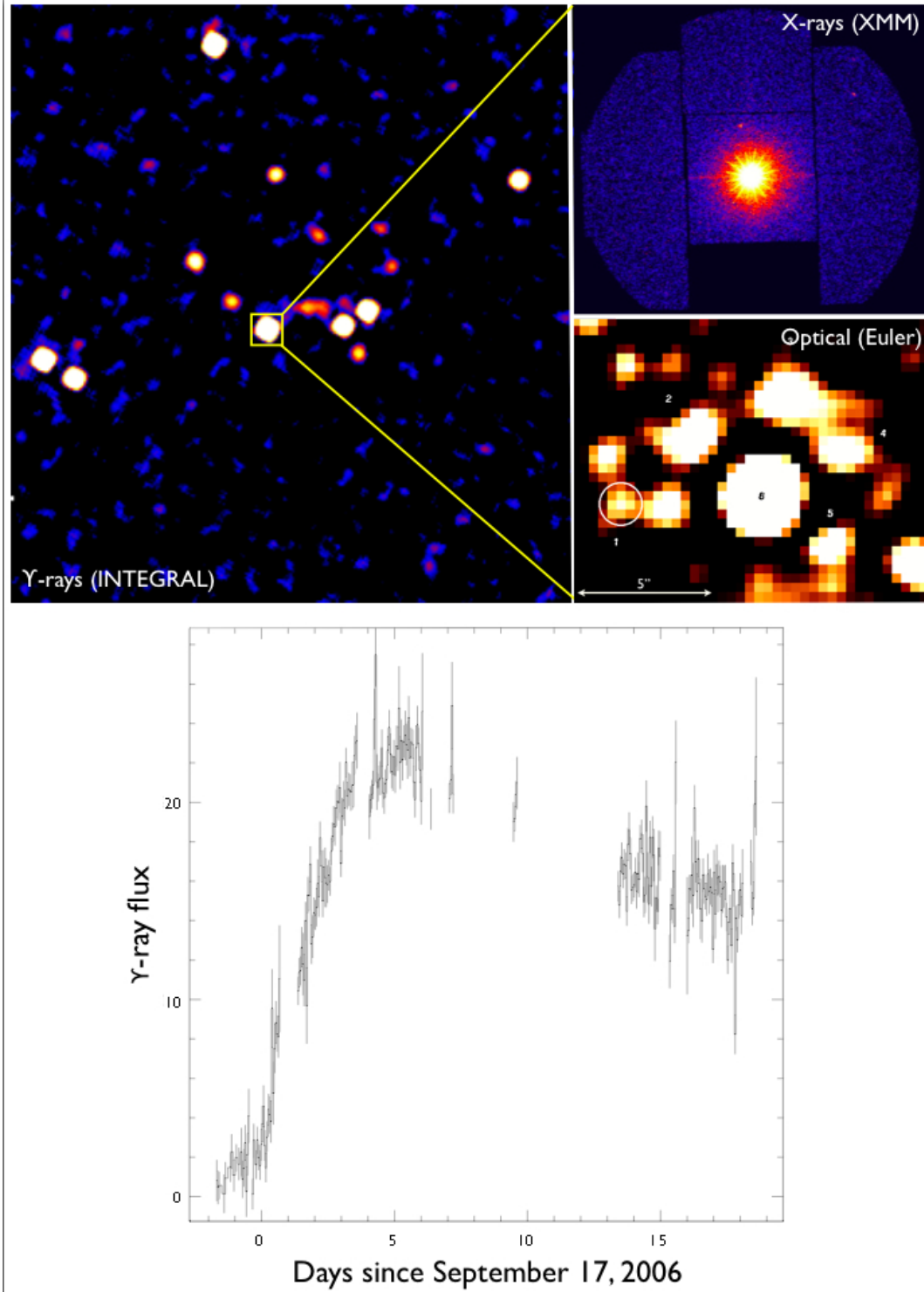


INTEGRAL

Picture of the Month

December 2006



IGR J17497-2821: a new X-ray Nova

During the Fall of this year, ESA's gamma-ray observatory INTEGRAL was observing the Galactic centre region for about 4 weeks as part of its first Key Programme. By chance it spotted a rare type of gamma-ray outburst on October 17th, 2006, at 1 degree from the Galactic Centre. Within the next few days follow-up observations were carried out by several X-ray observatories as well as in the optical. The development of the outburst with time allows to recognize the signature of a large increase of accretion rate on a new compact object that was never observed before. This compact object is most probably a new black-hole.

The largest image (top left) shows the IBIS/ISGRI image of the field including the new erupting source, named IGR J17497-2821. The images on the right show the INTEGRAL source as observed in the X-rays by XMM-Newton (top right) and in the optical (I filter) by the "Leonhard Euler" telescope from La Silla, Chile four days after the discovery. The figures below shows the lightcurve of the X-ray Nova, as measured by INTEGRAL, with a fast rise over 5 days and a slow exponential decay over two weeks. The spectral characteristics indicate an outburst in a low-hard state that is expected if most accretion occurred through the hot corona of the accretion disk.

This discovery highlights the unique capability of INTEGRAL in monitoring the inner Galaxy at hard X-rays.

First results are in press in Astronomy & Astrophysics:

<http://www.aanda.org/articles/aa/pdf/forth/aa6520-06.pdf>

<http://isdc.unige.ch/Science/news/061127/6520.pdf>

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