



## HIGHLIGHTS: this week in A&A

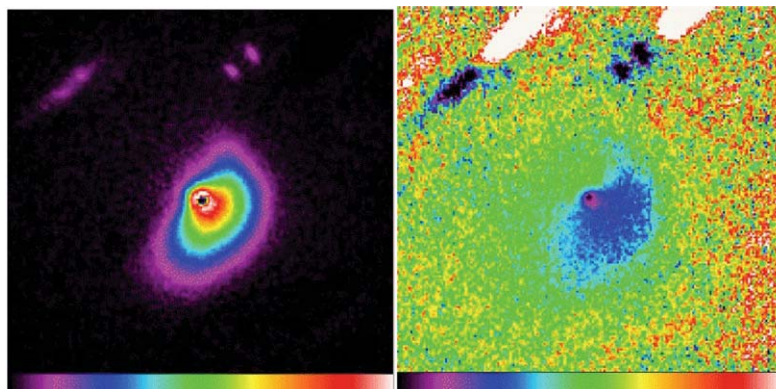
Volume 465-3 (April III 2007)

### Comet 9P/Tempel 1 during the Deep Impact event

*"Behavior of Comet 9P/Tempel 1 around the Deep Impact event"*

by L.M. Lara et al. [A&A 465, p. 1061](#)

In a long-term study of the Comet 9P/Tempel 1 Deep Impact (DI) event, the authors find differences in the refractory material ejected from the comet before and after the DI event. The post-impact grains have different optical properties or smaller sizes than the pre-event grains. They also find that the DI event did not have a long-lasting effect on the comet and that the DI-initiated outburst event looked rather like a natural comet outburst.



### XMM-Newton's view of the M87 atmosphere

*"The gaseous atmosphere of M87 seen with XMM-Newton"* by A.

Simionescu et al. [A&A 465, p. 749](#)

In this paper the authors use data from XMM-Newton to explore the hot halo of M87. They make maps of its temperature, pressure, and entropy, and highlight two "cool" arms perpendicular to the major axis of the elliptical isobars marking the pressure structure. This ellipticity hypothetically traces the shape of the dark matter halo of M87, while the NW/SE asymmetry in the entropy map is the result of the movement of M87 through the hot intergalactic surrounding medium. These results can only be obtained by using X-ray photometry and spectroscopy.

#### In section 1. Letters

**"Winds of M- and S-type AGB stars: an unorthodox suggestion for the driving mechanism"** by S. Höfner and A.C. Andersen [A&A 465, p. L39](#)

Before becoming white dwarfs, low- and intermediate-mass stars need to lose their hydrogen-rich envelope on the asymptotic giant branch (AGB). While carbon grains are thought to be essential for driving the winds of C-rich AGB stars, the equally strong winds of oxygen-rich AGB stars are puzzling. This paper explores whether in these stars, carbon grains can also be produced and do the job.

#### In section 2. Astrophysical processes

**"Analytical solutions for energy spectra of electrons accelerated by nonrelativistic shock waves in shell supernova remnants"** by V. Zirakashvili and F. Aharonian [A&A 465, p. 695](#)

The authors provide analytic expressions that can be used to interpret the hard X-ray and Gamma-ray data that are now being obtained (e.g., with HESS) in supernova remnants like CasA. Applications are also possible to a wide variety of objects with non-thermal emission.