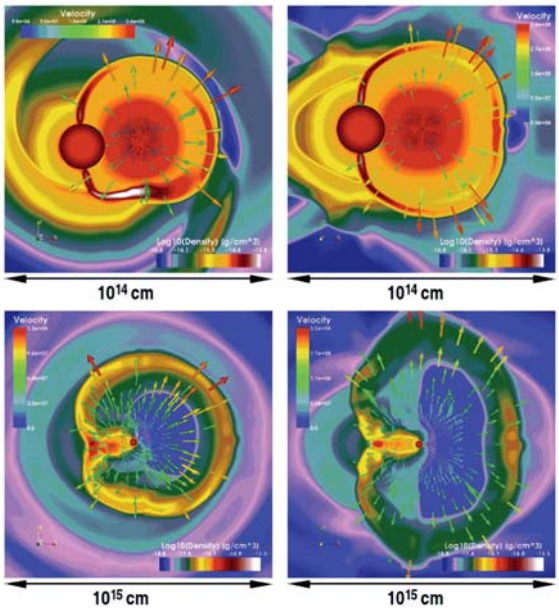
Astronomy & Astrophysics

HIGHLIGHTS: this week in A&A

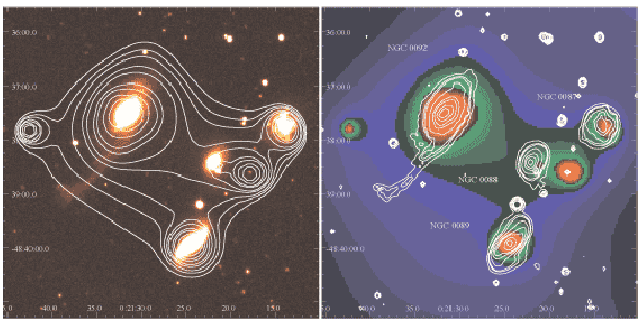
Volume 484-1 (June II 2008)



In section 1. Letters to the Editor. Sub-Sect. 7. Stellar structure and evolution

"3D simulations of RS Ophiuchi: from accretion to nova blast", by R. Walder, D. Folini, and S.N. Shore, A&A 484, p. L9

3D hidrodynamic simulations of the gas flows in the symbiotic binary system RS Ophiuchi confirm that this system is a prime candidate to evolve into a Type Ia supernova. It is shown that about 10% of the mass lost by the red giant component is accreted by the white dwarf, and that the latter, despite its nova outbursts every 22 yr, increases its mass, which is already very close to the Chandrasekhar mass.



In section 4. Extragalactic astronomy

"Detection of a hot intergalactic medium in the spiral-only compact group SCG0018-4854", by G. Trinchieri et al., A&A 484, p. 195

The authors detect and map in X-rays the hot intergalactic medium (IGM) in a spiral-only compact group. Such systems are thought to be in the early stage of interaction and coalescence, while X-rays are currently detected in more evolved groups with early-type and elliptical galaxies. It is interesting to check the formation of the IGM throughout evolution: here the density and temperature of the hot gas are much lower that in groups and clusters. However, the existence of the IGM could cause some of the morphological perturbations of the galaxies in the group.

In section 2. Astrophysical processes

"Intermediate long X-ray bursts from the ultra-compact binary source SLX 1737-282", by M. Falanga et al., A&A 484, p. 43

The properties of the system, with a likely low mass companion (perhaps a He star or brown dwarf), suggests that the class of long and superlong XR burst sources may be the most extreme gravitational wave-emitting progenitors. This study is a beautiful example of how to approach the analysis. This source is unique in displaying a series of bursts that permit, for the first time, constraints on the mass accretion rate and tests of nuclear burning scenarios.