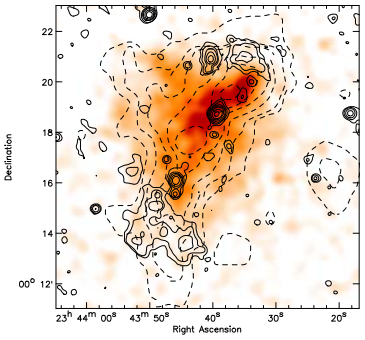
Astronomy & Astrophysics

HIGHLIGHTS: this week in A&A

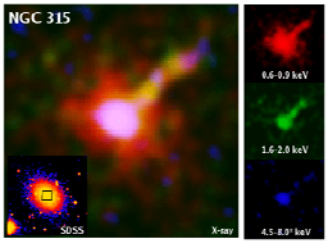
Volume 506-3 (November II 2009)

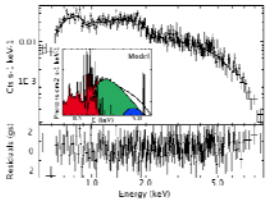
In section 3. Cosmology (including clusters of galaxies)



"Radio observations of ZwCl 2341.1+0000: a double radio relic cluster", by R.J. van Weeren, H.J.A. Rottgering et al., A&A 506, p. 1083

Galaxy clusters grow via mass infall and mergers of smaller clusters. The mergers produce shocks that accelerate electrons to highly relativistic energies. The electrons' diffuse emission takes the form of radio halos and relics. The authors report on radio observations of ZwCl 2341.1+0000, a complex merging structure of galaxies, using Giant Metrewave Radio Telescope (GMRT) observations. A double relic is found in the periphery of the cluster, located symmetrically with respect to the cluster center, allowing us to derive the value of the magnetic field, and providing insights into the merger mechanism.

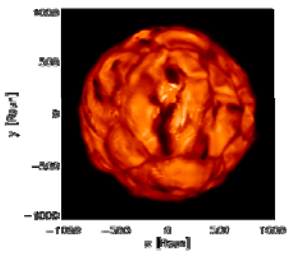




In section 4. Extragalactic astronomy

"An X-ray view of 82 LINERs with Chandra and XMM-Newton data", by O. Gonzalez-Martin, J. Masegosa et al., A&A 506, p. 1107

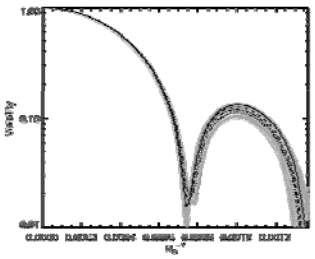
From the largest sample of LINERs (82) with X-ray spectral data and multi-wavelength information (emission lines, radio compactness and stellar populations), the authors are able to show that 80% of them (66) contain an AGN as nuclear engine.



In section 8. Stellar atmospheres

"Radiative hydrodynamics simulations of red supergiant stars. I. Interpretation of interferometric observations", by A. Chiavassa, B. Plez, E. Josselin, and B. Freytag, A&A 506, p. 1351

The authors of this paper analyze synthetic interferometric observations, based on 3D radiative hydrodynamic simulation of a red super giant, with parameters similar to alpha Ori. They explore the impact of the granulation on visibility curves and closure phases using the radiative transfer code. This work confirms the existence of large convective cells on the surface of Betelgeuse.



In section 7. Stellar structure and evolution

"Luminosities and mass-loss rates of SMC and LMC AGB stars and red supergiants", M.A.T. Groenewegen, G.C. Sloan, I. Soszynski, and E.A. Petersen, A&A 506, p. 1277

Mass loss is a fundamental property of AGB stars with implications both for the evolution of these objects and for the return of processed material to the interstellar medium. The study by Groenewegen and collaborators in this issue presents data based on both SPITZER results and ground-based photometry for 101 carbon stars and 86 O-rich objects in the SMC and LMC and derives mass loss rates and luminosities for the entire sample. The derived mass-loss rates are consistent with current wind models to within a factor 2-4.