



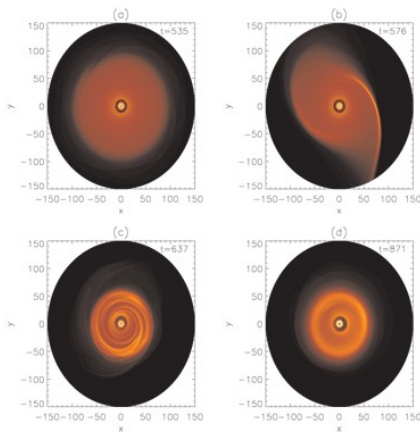
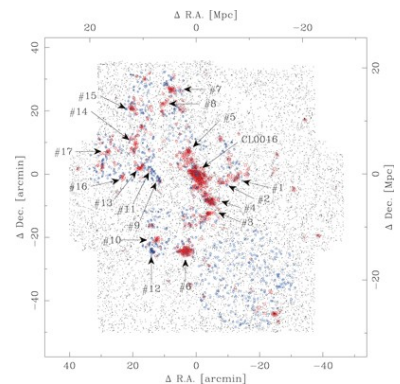
HIGHLIGHTS: this week in A&A

Volume 505-2 (October II 2009)

In section 1. Letters

"The spectroscopically confirmed huge cosmic structure at $z=0.55$ ", by M. Tanaka et al., *A&A* 505, p. L9

Galaxies tend to form in filamentary structures, as cosmological simulations show beautifully. This work confirms the existence of galaxies and clusters aligned in a large-scale structure, among the richest ever observed in the distant Universe. Through spectroscopy, the authors confirm that the galaxies and groups have similar redshift, around $z=0.55$, and belong to the same part of the cosmic web around the CL0016 cluster. These structures and condensations also reveal extended X-ray emissions, as found in rich environments.



In section 10. Planets and planetary systems

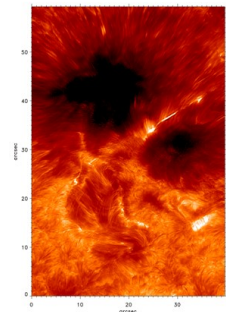
"Giant planet formation in stellar clusters: the effects of stellar fly-bys", by M.M. Fragner and R.P. Nelson, *A&A* 505, p. 873

The majority of stars in the Galaxy are thought to have formed in stellar clusters, resulting in occasional close encounters between stars during the epoch of planet formation. To understand how this may have affected the characteristics of planets (in particular giant planets) in these systems, Fragner and Nelson use a 2D hydrodynamic simulations of a giant planet embedded in a circumstellar disk that is perturbed by a passing star. They predict that planets that undergo close encounters are expected to be more massive and to orbit with larger semimajor axes than planets in systems that have not experienced parabolic encounters.

In section 9. The Sun

"High-resolution spectro-polarimetry of a flaring sunspot penumbra", by J. Hirzberger et al., *A&A* 505, p. 771

The authors describe the topological magnetic changes that occur in the periphery of a complex sunspot during flaring activity, using a reconstruction of the full vector of the magnetic field. The flaring region is detached from the global magnetic field structure, and flux emergence leads to islands of opposite magnetic polarity. The resulting strong magnetic shear triggers the flaring activity.



In section 10. Planets and planetary systems

"Transit spectrophotometry of the exoplanet HD189733b. I. Searching for water but finding haze with HST NICMOS", by D.K. Sing et al., *A&A* 505, p. 891

The question of the analysis of the atmospheric composition of exoplanets is actively debated. Swain et al. have recently claimed the detection of water, carbon monoxide, and methane absorption features in the transmission spectrum of HD189733b using HST NICMOS at wavelengths between 1.5 and 2.5 microns. In this issue, Sing et al. analyze different HST NICMOS observations on narrowband filters centered on 1.66 and 1.87 microns. Their measurements are compatible with a featureless spectrum that would be indicative of a high-altitude haze, not of water absorption. To be continued...