Astronomy & Astrophysics

HIGHLIGHTS: this week in A&A

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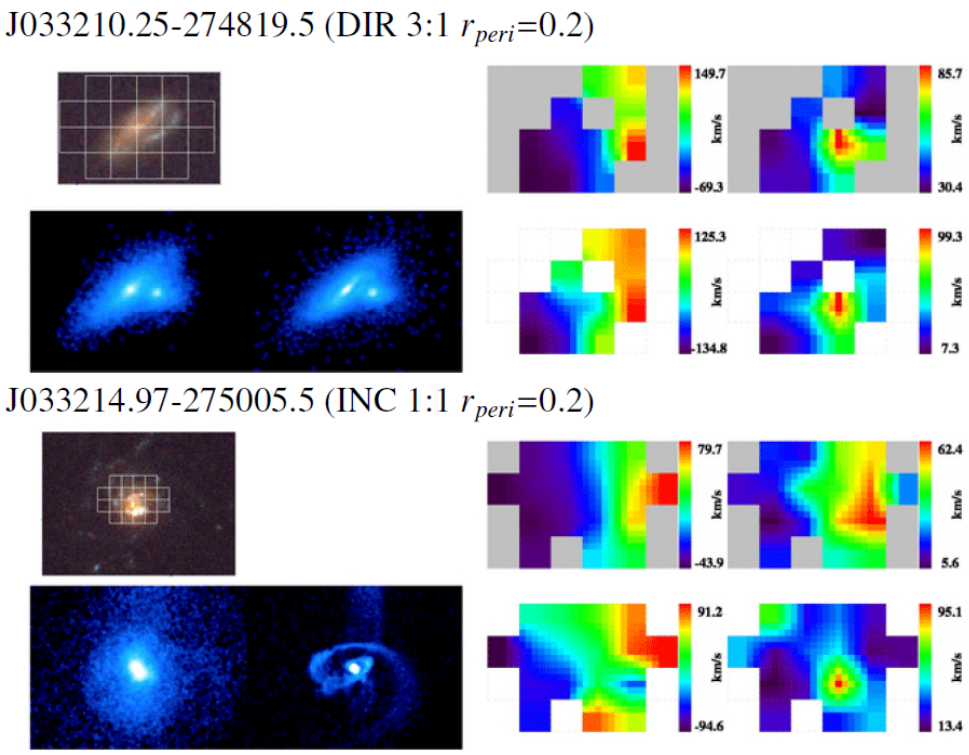

In section 4. Extragalactic astronomy

"The Hubble sequence: just a vestige of merger events?", by F. Hammer, H. Flores, M. Puech, Y. B. Yang, E. Athanassoula, M. Rodrigues, and R. Delgado, A&A 507, p. 1313

Since the time (1926) when Edwin Hubble invented his fundamental classification scheme for galaxies, now known as the "Hubble sequence", astrophysicists have struggled to understand the physical origin of this amazing "tuning fork" shape of the galactic morphological distribution. Ideas that explain such observational evidence have been numerous since its discovery. However, only recently attempts to explain it in the framework of global cosmological models have become possible. Among these are hierarchical ones in which cosmic structures grow through a series of mergers are the most popular, have become possible. By putting together old ideas (as the disk re-building) and new results on the effects of mergers and by analyzing a high-quality data sample of galaxies at redshift z=0.65, this paper suggests that the formation of the Hubble sequence largely relies on past merger events.

In section 1. Letters to the Editor. Subsection 4. Extragalactic astronomy

"GRB 090426: the farthest short gamma-ray burst?", by L.A. Antonelli, P. D'Avanzo, R. Perna, et al., A&A 507, p. L45

The short gamma-ray bursts (those lasting < 2 sec) have only recently been identified with distant sources (z > 2). This paper shows the medium-resolution optical afterglow spectra and photometry obtained with the DOLORES spectrograph on the TNG. The Ly alpha line is resolved into at least two components at redshifts 2.59 and 2.61. Column densities are lower than the usual GRB values but consistent with a normal Lyman-alpha forest absorption, yet they indicate a higher metallicity for the host galaxy interstellar medium, consistent with the X-ray H I column densities.

In section 1. Letters to the Editor. Subsection 4. Extragalactic astronomy

"Exploring the inner region of type 1 AGNs with the Keck interferometer", M. Kishimoto, S. Hoenig, R. Antonucci, T. Kotani, R. Barvainis, K. Tristram, and G. Weigelt, A&A 507, p. L57

The authors present some of the first long-baseline interferometric measurements in the infrared towards nearby AGN with the Keck. They find a ring of emission that could be caused by the dust sublimation radius, with a good correspondence with the independent radius measurements from the optical-infrared reverberation technique. The relative position of the measured rings yield insights into the morphology of the accretion disks in these AGN.