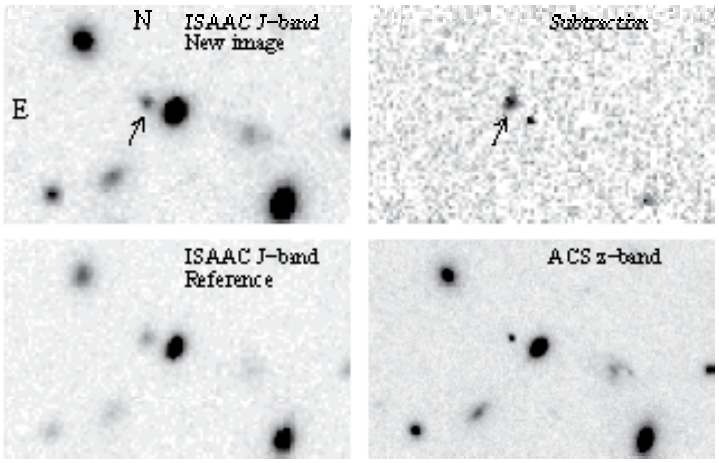
Astronomy & Astrophysics

HIGHLIGHTS: this week in A&A

Volume 507-1 (November III 2009)



In section 3. Cosmology (including clusters of galaxies)

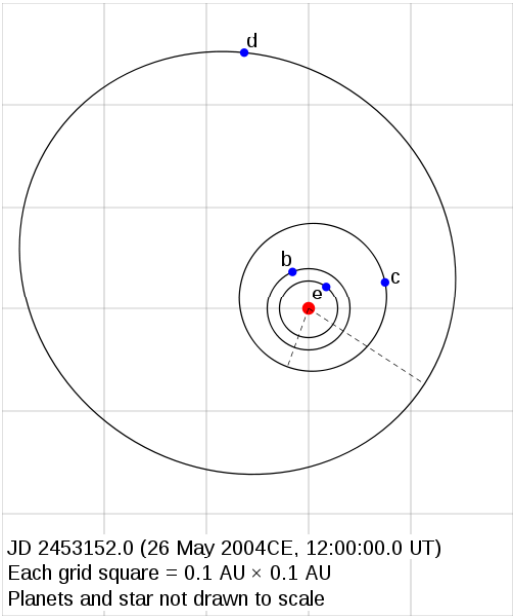
"Near-IR search for lensed supernovae behind galaxy clusters. I. Observations and transient detection efficiency", by V. Stanishev, A. Goobar, K. Paech, R. Amanullah, T. Dahlen, J. Jonsson, J. P. Kneib, C. Lidman, M. Limousin, E. Mortsell, S. Nobili, J. Richard, T. Riehm, and M. von Strauss, A&A 507, p. 61

This is a clever use of archival material, and this search is likely to produce new lensed transients, not only SN (e.g. one is an AGN). It's a powerful, extremely simple, and potentially a widely applicable search technique.

In section 10. Planets and planetary systems

"The HARPS search for southern extra-solar planets. XVIII. An Earth-mass planet in the GJ 581 planetary system", by M. Mayor, X. Bonfils, T. Forveille, X. Delfosse, S. Udry, J.-L. Bertaux, H. Beust, F. Bouchy, C. Lovis, F. Pepe, C. Perrier, D. Queloz, and N. C. Santos, A&A 507, p. 487

This paper provides a welcome update on the Gliese 581 planetary system, one of the most fascinating systems discovered to date. GJ 581, a low-mass M3 star, is already known to harbor three planets, including two super-Earth planets orbiting close to the inner and outer limits of its habitable zone. Now the authors report detection of an additional planet, GJ 581e, with a minimum mass of 1.9 Earth masses. With a revolution period of 3.15 days, it is the innermost planet of the system. The paper also presents a revised period of 66.8 days for GJ 581d, which definitely places the semi-major axis of this planet inside the habitable zone of the star.



http://fr.wikipedia.org/wiki/Fichier:GJ581orbits.svg.
Orbital parameters from Mayor et al. (2009), Table 2.