Astronomy & Astrophysics

HIGHLIGHTS: this week in A&A

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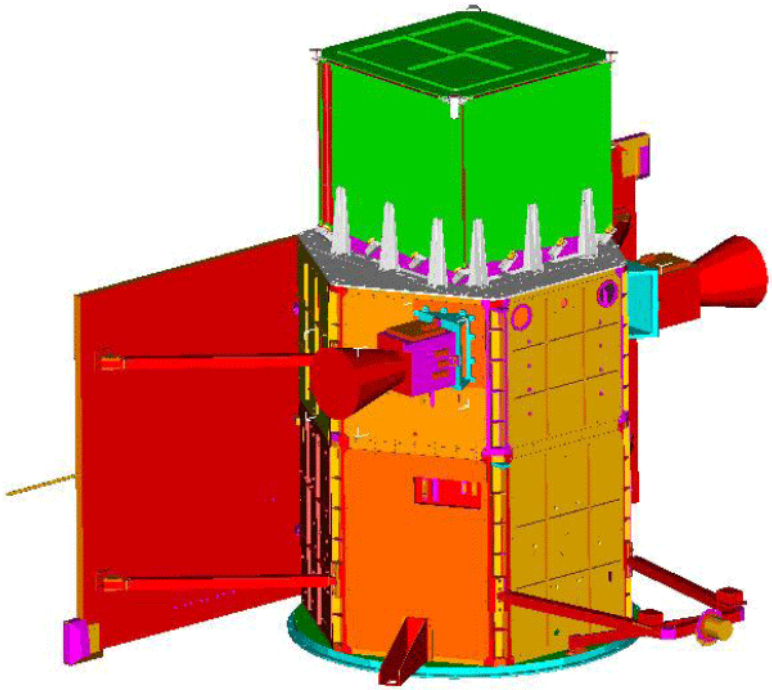

In section 13. Astronomical instrumentation

"The AGILE mission", by M. Tavani, G. Barbiellini, A. Argan, F. Boffelli, et al., A&A 502, p. 1015

The AGILE mission is a small, rapid-response, low-Earth orbit satellite operating in the X-ray (10-60 keV) and gamma-ray (30 MeV -50 GeV) with a > 1 sr field of view at all energies. The sensitive range overlaps the lower energy interval of Fermi and atmospheric Cerenkov telescopes. A particular feature is longtterm monitoring, now more than 2 years. This paper provides a general introduction to the mission concept, instrument characteristics, and available analysis tools.

In section 6. Interstellar and circumstellar matter

"Dust coagulation and fragmentation in molecular clouds. I. How collisions between dust aggregates alter the dust size distribution", C.W. Ormel, D. Paszun, C. Dominik, and A.G.G.M. Tielens, A&A 502, p. 845

Using a Monte Carlo scheme and a detailed model for the coagulation of single-sized monomer grains, Ormel et al. show that, under typical molecular cloud conditions, coagulation can be rather fast. Their calculations indicate that it is possible to form particles containing millions of constituent monomers on timescales of millions of years. They further show how the coagulation process proceeds via several distinct phases.