Astronomy & Astrophysics

HIGHLIGHTS: this week in A&A

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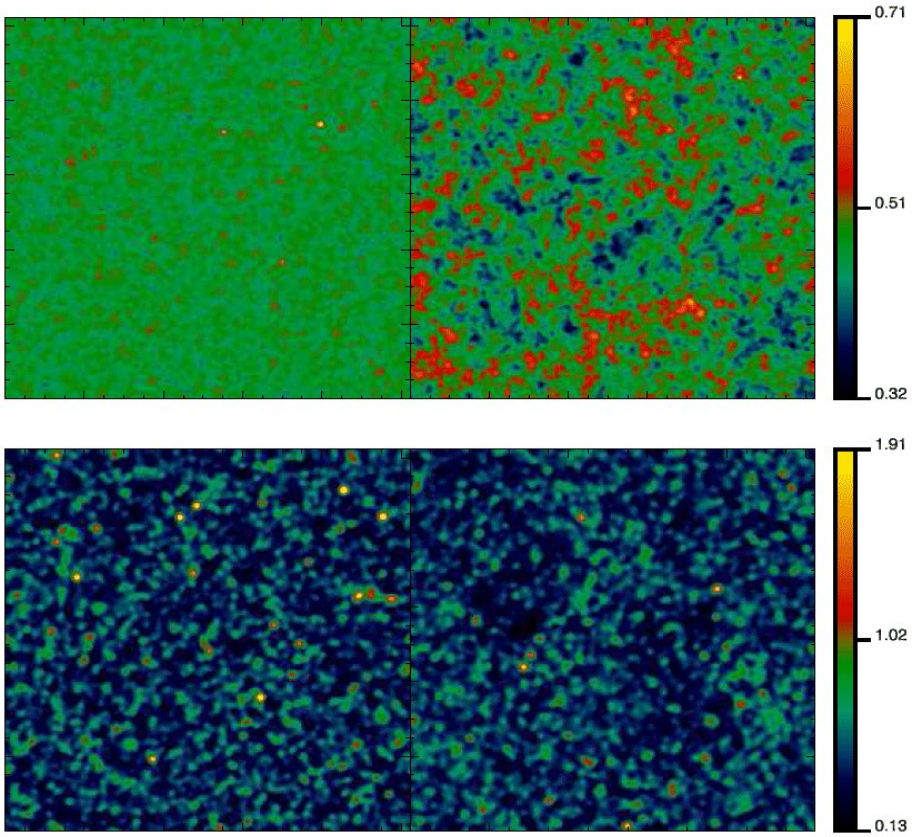
In section 13. Astronomical instrumentation

"Simulations of the cosmic infrared and submillimeter background for future large surveys. I. Presentation and first application to Herschel/SPIRE and Planck/HFI", by N. Fernandez-Conde, G. Lagarche, J.L. Puget, and H. Dole, A&A 481, p. 885

This paper presents new simulations of the far-infrared background, using some model of source counts and spatial distribution, which both match the current observations. Observations of the far-infrared background with Planck and Herschel will be a major tool for constraining galaxy formation and evolution. Realistics simulations are needed to understand and prepare these observations. This paper presents simulations of this background using models of source counts and spatial distributions, which both match the current observations. Using these simulations, the authors predict the source detection threshold for Planck/HFI and Herschel/SPIRE, and study the detectability of the clustering of these sources.



In section 6. Interstellar and circumstellar matter

"Outer edges of debris discs. How sharp is sharp?", by P. Thébault and Y. Wu, A&A 481, p. 713

Rings or annulus-like features have been observed in most imaged debris disk around main sequence stars, and some display large brightness drops at the ring's outer edge. This truncation has generally been attributed to interactions with either planets or else with remnant gas. The authors explore whether these edges can instead be explained purely by the collisional evolution of the debris disk, and conclude that they can be, but only under somewhat unlikely circumstances.