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Gaia DR4 e la frontiera astrometrica: rivelare sistemi planetari analoghi dallo spazio

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“ESA’s Gaia mission is ushering in a new era of exoplanet detection through space-based astrometry. While Gaia DR3 provided tantalizing early results—including orbital hints and dynamical masses for a few known planets—the forthcoming Data Release 4 (DR4), expected in 2026, will mark a pivotal milestone: the first large-scale catalog of exoplanets detected via astrometry. This breakthrough is particularly timely for identifying and characterizing long-period giant planets on wide orbits—key hallmarks of Solar System analogs.

In this talk, I will review the current impact of Gaia astrometry on the exoplanet field, and focus on DR4’s transformative potential to uncover planetary systems with architecture and dynamics akin to our own. I will describe the expected contents of the DR4 exoplanet catalog, the types of systems it will be most sensitive to, and how this will shape our statistical understanding of Jupiter analogs and multi-planet configurations over the coming years. Finally, I will discuss the crucial role of complementary follow-up observations to maximize the scientific return and pave the way for comparative exoplanetology of Solar System-like systems.”

sessioni congresso

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