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Marinoni: ”E pur si muove! A real-time detection of our acceleration through space”

Friday, 29 September 2017 12:00 (35 minutes)

High-precision astrometric experiments will allow to detect our proper acceleration through space via real-time observations of the change in the aberration of sources at cosmic distances.
This ‘Aberration Drift’ effect is a powerful consistency test of FLRW metric, it may set independent constraints on the amplitude of the Hubble constant and the linear growth rate of cosmic structures,
and it may also be instrumental in searching for evidences of new physics beyond the standard model.
I will present the formalism of this novel test of cosmology, discuss the physics to which it is sensitive and show simulated forecasts of the accuracy with which it can be implemented by
ongoing satellite missions such as Gaia or upgraded future experiments.