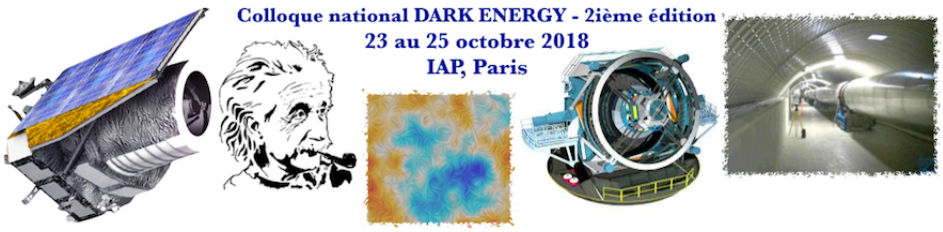

ID de Contribution: **59** Type: **Non spécifié**

E pur si muove! A proposal for a real-time detection of our acceleration through space

High-precision astrometric experiments might constrain our proper acceleration through space via real-time observations of the change in the aberration of sources at cosmic distances.
The cosmological component of this aberration drift signal, the non-inertial motion generated by the large-scale distribution of matter, can in principle be detected by
astrometric surveys. It can provide interesting consistency tests of the standard model of cosmology, 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. We present the formalism of this novel cosmological test, discuss the physics to which it is sensitive and show simulated forecasts of the accuracy with which it can be implemented.

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