

## Large scale space interferometry to measure galactic gravitomagnetism

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The proposal that will be presented is to use space based interferometers, designed for gravitational waves detection, as sensors for the gravitomagnetic field of the Milky Way. The technique would be based on the asymmetric propagation of light along the closed contour of the interferometer originated by the various components of the proper rotation of the device and by the chirality of the space time due to the angular momentum of our galaxy. A size with sides in the order of one million kilometres or more should allow the detection of both components of the angular momentum: the visible and the dark one (if it is there).

The principle idea is discussed and the various practical problems and ways out are mentioned, using LISA as an example. The expected signal could be modulated thanks to the annual oscillation of the plane of the interferometer with respect to the galactic plane and to the spin axis of the Sun.

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