Aberration in electromagnetism and gravito-electromagnetism

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We study the presence of aberration in electromagnetism due to moving sources and we confirm the well known result from Lorentz invariance that uniformly moving sources show no aberration in electromagnetism. We generalize the analysis to take into account accelerated sources and show that there is a first order correction proportional to the acceleration. The approximation of gravito-electromagnetism allows us to take over these results into general relativity. However we highlight some fundamental limitation to the process. Finally we propose an experiment to test gravito-electromagnetism and the speed of gravity in the laboratory.

This is joint work with M. B. Paranjape.

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