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Completeness of uniformly accelerated trajectories in General Relativity

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The notion of a uniformly accelerated rectilinear motion of an observer in a general spacetime is analysed in detail. Such a observer may be seen as a Lorentzian circle, providing a new characterization of a static standard spacetime. The trajectories of uniformly accelerated rectilinear observers are seen as the projection on the spacetime of the integral curves of a vector field defined on a certain fiber bundle over the spacetime. Using this tool, we find geometric assumptions to ensure that an inextensible uniformly accelerated rectilinear observer does not disappear in a finite proper time. This work is based on [1].

Referencias

[1] D. De la Fuente, A. Romero: Uniformly accelerated motion in General Relativity: completeness of inextensible trajectories, *Gen. Relativ. Gravit.* (2015), DOI 10.1007/s100714-015-1879-3.

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