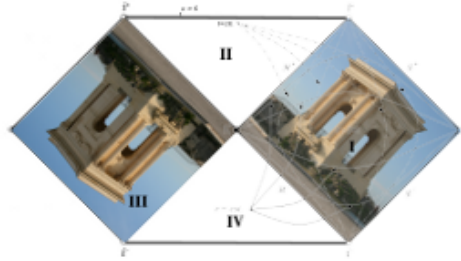


Ecole Thématique
Aspects Géométriques de la Relativité
Générale
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Geometric Aspects of General
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On the center of mass in General Relativity (short talk)

mardi 29 septembre 2015 11:15 (40 minutes)

In many situations in Newtonian Gravity, understanding the motion of the center of mass of a system is key to understanding the general “trend” of the motion of the system. It is thus desirable to also devise a notion of center of mass with similar properties in General Relativity. However, while the definition of the center of mass via the mass density is straightforward in Newtonian Gravity, there is a priori no definitive corresponding notion in General Relativity. Instead, there are several alternative approaches to defining the center of mass of a system. We will discuss some of these different approaches for both asymptotically Euclidean and asymptotically hyperbolic systems and present some new ideas as well as explicit (counter-)examples.

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