
**VI International Meeting on Lorentzian Geometry
Granada (Spain), September 6-9, 2011
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Minicourse: On the isometry group of Lorentz manifolds.

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The course will consist of three lectures. In the first lecture I intend to discuss a proof of the existence of a Lie group structure in the set of isometries, or more generally of conformal diffeomorphisms, of a semi-Riemannian manifold. In the second lecture I will present the main results of a theory developed mostly by Adam, Stuck and Zeghib in the 90's, that lead to a classification of Lie groups that act locally faithfully and isometrically on compact Lorentzian manifolds. Finally, in the third lecture, I will present some recent result that have been obtained by Zeghib and myself on the isometry group of compact Lorentz manifolds that admit a somewhere time-like Killing vector field.