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Autore	Adams Scot
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algebras from bilinear and quadratic forms; 4.8 Abelian Lie groups; 4.9 Miscellaneous results; 4.10 Generalities on semisimple groups and algebras; 4.11 Real Jordan decomposition; 4.12 Consequences of results on real Jordan decomposition; 4.13 Generalities on algebraic groups; 4.14 Generalities on nilpotent groups and algebras; 4.15 Generalities on the nilradical
4.16 Relationships between representation theoriesChapter 5 More Lie Theory; 5.1 Connection-preserving diffeomorphisms form a Lie group; 5.2 The isometry group of a pseudoRiemannian manifold is a Lie group; 5.3 More results on expansive sequences; 5.4 Lie groups densely embedded in other Lie groups; 5.5 Generalities on the Levi decomposition; 5.6 Large normalizers and centralizers; 5.7 Representation theory; Chapter 6 Minkowski Linear Algebra; 6.1 Notations for important elements and Lie subalgebras of so(Qd); 6.2 Linear algebra of Minkowski vector spaces; 6.3 Basic calculations
6.4 Embeddings of Lorentz Lie algebrasChapter 7 Basic Dynamical Results; 7.1 Kowalsky's Lemma; 7.2 Higher jets of vector fields and metrics - notation; 7.3 Matrix realizations of jets and calculus on jets; 7.4 Miscellaneous results; 7.5 A basic collection of rigidity results; 7.6 Strongly lightlike and nontimelike vectors; 7.7 Basic results on degenerate orbits; 7.8 More on strongly lightlike and nontimelike vectors; 7.9 Nonproperness and cocompact subgroups; 7.10 Kowalsky subsets; 7.11 Types of chaotic actions; 7.12 Induction of actions: Definition; 7.13 Induction of actions: Basic results
7.14 Riemannian dynamics

Sommario/riassunto

Within the general framework of the dynamics of "large" groups on geometric spaces, the focus is on the types of groups that can act in complicated ways on Lorentz manifolds, and on the structure of the resulting manifolds and actions. This particular area of dynamics is an active one, and not all the results are in their final form. However, at this point, a great deal can be said about the particular Lie groups that come up in this context. It is impressive that, even assuming very weak recurrence of the action, the list of possible groups is quite restricted. For the most complicated of the