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***Recent developments in pseudo-Riemannian holonomy theory:
classification, examples, and applications***

Abstract: We will review recent results on holonomy groups of pseudo-Riemannian manifolds. Focussing on Lorentzian signature, we will present the list of possible Lorentzian holonomy groups and show how all of these can be realised by Lorentzian metrics. Applications include the holonomy groups of Lorentzian manifolds with parallel spinor and of Lorentzian Einstein manifolds. We will describe some holonomy related structures such as pp-waves and their generalisations. Finally, results in other signatures will be presented briefly.