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*Invariant classification of four-dimensional neutral signature metrics.*

We investigate the mathematical properties of four-dimensional neutral signature Ricci flat Walker and Kundt spaces for which all of the polynomial scalar curvature invariants vanish. The main part of the talk will be focused on the equivalence problem in geometry applied to these VSI metrics. The main results of the project are discussed in detail with emphasis given on the explanation of the equivalence method due to Cartan and Karlhede. We conclude the discussion showing that the equivalence algorithm provides all necessary information to determine the equivalence of these pseudo-Riemannian manifolds. (Received August 18, 2014)