

1124-53-374

T. H. Wears* (wearsth@longwood.edu). *Lorentzian Ricci Solitons on Solvable Lie Groups*. Preliminary report.

We present the classification of algebraic Ricci solitons of Lorentzian signature on a five-dimensional solvable Lie group, the geometry of which has previously been extensively investigated by M. Aghasi and M. Naheshi, and G. Calvaruso, O. Kowalski, R. Marinosci. Using the symmetries of the Lie algebra, we find canonical forms of the left invariant Lorentzian metrics on the group in question and then use the canonical forms to classify the algebraic Ricci solitons. In particular, we establish the existence of inequivalent algebraic Ricci solitons exhibiting a wide variety of qualitative behaviors. In comparison with the work of Aghasi and Nasehi, where the authors establish that a particular family of left invariant metrics are not homogeneous Ricci solitons, this shows that the geometry of Ricci soliton structures on the indicated group is in fact quite rich. (Received September 13, 2016)