1105-53-354 **T. H. Wears*** (wearsth@longwood.edu). *Lorentzian Ricci Solitons on a 5-dimensional Nilpotent Lie Group.* Preliminary report.

We present the classification of all left-invariant Lorentzian metrics on a five-dimensional connected, simply-connected nilpotent Lie group that has a basis consisting of vectors $\mathbf{E}_1$, $\mathbf{E}_2$, $\mathbf{E}_3$, $\mathbf{E}_4$, $\mathbf{E}_5$, with bracket structure generated by the relations $[\mathbf{E}_1, \mathbf{E}_5] = \mathbf{E}_3$ and $[\mathbf{E}_2, \mathbf{E}_4] = \mathbf{E}_5$. In addition, we classify all left invariant Lorentzian Ricci soliton and algebraic Ricci soliton metrics on the Lie group in question and provide a detailed comparison between Lorentzian Ricci solitons and Riemannian Ricci solitons. (Received September 23, 2014)