

1096-53-2423

T. H. Wears* (wearsth@longwood.edu) and **Joseph Gills**
(joseph.gills@live.longwood.edu). *The Geometry of Curves and Surfaces in the Heisenberg Group*. Preliminary report.

We study the geometry of curves and surfaces in the three-dimensional Heisenberg group equipped with left invariant metric (Riemannian or Lorentzian) by utilizing the Fels-Olver moving frame method. In doing so, we present complete sets of differential invariants for curves and surfaces in the Heisenberg group when the dimension of the isometry group is four. In addition, we provide a geometric interpretation of the invariants for certain classes of curves and surfaces and provide a brief comparison with differential invariants of curves and surfaces generated by more traditional geometric methods. (Received September 17, 2013)