

Meeting: 1003, Atlanta, Georgia, SS 11A, AMS Special Session on Riemannian Geometry, I

1003-53-861 **Curtis Tor Asplund*** (Curtis.Asplund@oberlin.edu), OCMR 0167, 135 West Lorain St., Oberlin, OH 44074, and **Brian Krummel, Evan D. Merrell, Robert T. Rachal** and **DaGang Yang** (dgy@math.tulane.edu). *Classification of Einstein metrics on $I \times S^3$.*

We present an exhaustive classification of Einstein metrics on the space $M = I \times S^3$, where $I = (0, l)$ or $(0, \infty)$, and we consider separate metric functions f and h of $t \in I$ for the base and fiber of the Hopf fibration $S^1 \rightarrow S^3 \rightarrow S^2$. All such metrics yielding smooth and complete manifolds are included and discussed. Our method produces results that are surprisingly rich, including many well-known examples and several parameterized families of metrics with a large variety of geometries and topologies. (Received September 30, 2004)