

1116-53-1006

Paul T Allen* (ptallen@clark.edu), **James Isenberg**, **John M. Lee** and **Iva Stavrov Allen**. *Elliptic problems and weakly asymptotically hyperbolic manifolds.*

We present recent work concerning elliptic problems on weakly asymptotically hyperbolic manifolds. We present a definition of weakly asymptotically hyperbolic manifolds that is motivated by regularity results for elliptic problems. Following a discussion of the definition, we present Fredholm results for elliptic operators in the weakly asymptotically hyperbolic setting. We conclude with a discussion of applications in differential geometry and mathematical relativity. (Received September 16, 2015)