

1070-53-229

Jeffrey L Jauregui* (jauregui@math.upenn.edu). *Nonnegative scalar curvature on compact manifolds with boundary.*

We consider the problem of realizing given geometric data on the 2-sphere as the boundary of a compact Riemannian 3-manifold of nonnegative scalar curvature. By perturbing the boundary data, we construct a new definition of quasi-local mass, which may be of interest for its tendency to vanish on static vacuum metrics. (Received February 13, 2011)