

1069-58-235

Klaus Kirsten* (klaus_kirsten@baylor.edu), Department of Mathematics, Baylor University, Waco, TX 76798. *Zeta function on surfaces of revolution*. Preliminary report.

We consider the surface of revolution M generated by a positive, differentiable function f on $[0, L]$. Taking the metric induced by the standard Euclidean metric of R^3 we obtain a Riemannian manifold (M, g) with nonempty boundary. On (M, g) we consider the Laplacian and its associated zeta function. We analyze in detail how the zeta function determinant and the Casimir energy depend on the function f . (Received January 24, 2011)