

- **Hermann, Andreas: The mass of a compact manifold (204)**

This is joint work with Emmanuel Humbert. Let  $(M,g)$  be a compact Riemannian manifold without boundary. Assume that the conformal Laplace operator  $L$  acting on smooth functions on  $M$  is strictly positive and that the metric  $g$  is flat on an open neighborhood of a point  $p$  in  $M$ . Then the mass  $m(g,p)$  of  $(M,g)$  at the point  $p$  is defined as the constant term in the expansion of the Green function of  $L$  at  $p$ . We prove a variational characterization of  $m(g,p)$ . Then we give some applications to the ADM mass of an asymptotically flat Riemannian manifold which might be useful to obtain a proof of the Positive Mass Theorem in the general case.