1005-53-101   **Haydee Herrera*** (`haydeeh@camden.rutgers.edu`), Department of Mathematical Sciences, Rutgers University, Camden, NJ 08102, and **Rafael Herrera** (`rherrera@math.princeton.edu`), Department of Mathematics, Princeton University, Princeton, NJ 08544. *Elliptic genus on non-spin manifolds with cirle actions.*

We start by defining the elliptic genus on an oriented manifold of dimension 4n. We prove the vanishing of various characteristic numbers, such as the signature and the A-hat-genus, on manifolds with finite second homotopy group and which admit smooth circle actions. More precisely, we prove the vanishing of various coefficientes of the elliptic genus on non-spin manifolds, with finite second homotopy group, when the circle action either satisfies a "parity" condition or has isolated fixed points only. (Received February 02, 2005)