1117-58-534   **Phillip Andreae*** (`pandreae@math.duke.edu`). *Analytic torsion: generalized metric invariance.*

We study the Ray-Singer analytic torsion associated to a flat vector bundle over an odd-dimensional compact manifold. A theorem of Ray-Singer states that in the acyclic case (and, with the appropriate interpretation, more generally), analytic torsion is independent of the metrics used to define it, i.e., it is a topological invariant. We generalize this metric independence theorem to a larger class of metrics, and we explain the metric independence in terms of a certain closed one-form on the space of metrics using a Stokes' theorem argument. (Received January 19, 2016)