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The loop orbifold of the symmetric product

By using the loop orbifold of the symmetric product, we give a formula for the Poincaré polynomial of the free loop space of the Borel construction of the symmetric product. We also show that the Chas–Sullivan product in the homology of the free loop space of the Borel construction induces a ring structure in the homology of the inertia orbifold of the symmetric product. This ring structure is compared to the one in cohomology through Poincaré duality.