Homology, Homotopy and Applications, vol.4(2), 2002, pp.29–62

SECONDARY COHOMOLOGY AND THE STEENROD SQUARE

HANS–JOACHIM BAUES

(*communicated by Larry Lambe*)

Abstract

We introduce and study various properties of the secondary cohomology of a space. Certain Steenrod squares are shown to be related to the action of the symmetric groups on secondary cohomology.

To Jan–Erik Roos on his sixty–fifth birthday

For a field k we choose the Eilenberg–MacLane space $Z^n = K(k,n)$ by the realization of the simplicial k–vector space generated by the non–basepoint singular simplices of the n–sphere $S^n = S^1 \wedge \ldots \wedge S$