ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

6. Topology

1991 MS Classification: 55
Mdzinarishvili, Leonard, Georgian Technical University, Georgia
Partially continuous Alexander-Spanier cohomology theory
Our aim is to introduce a new cohomology of Alexander-Spanier type with coefficients in an arbitrary topological abelian group. This cohomology will be denoted by $\bar{h}^*$.
On the category A_p of paracompact Hausdorff pairs the cohomology $\bar{h}^*$ with coefficients in an arbitrary topological abelian group G satisfies all axioms of Eilenberg-Steenrod, except the excision axiom, and the additivity axiom.
If G is an absolute retract, then $\bar{h}^*$ is isomorphic to ordinary Alexander-Spanier cohomology on A_p.
If $G = S^1$, then

$$\bar{h}^m(S^n, G) \approx \begin{cases} S^1, & m = 0,\ n \geq 1 \\ S^1 + S^1, & m = n,\ n = 0 \\ 0, & m \neq n, 0 \\ S^1, & m = n,\ n = 1 \\ \mathbb{R}, & m = n,\ n \geq 2 \end{cases}$$

Reference: L. Mdzinarishvili, Partially continuous Alexander-Spanier cohomology theory; *Grüne Preprintreiche der Universität Heidelberg, Heft* **130**(1996).