

1023-18-93

**Mihai D Staic\*** (mdstaic@buffalo.edu), SUNY at Buffalo, 244 Math. Bldg., North Campus,  
Amherst, NY 14260-2900. *Symmetric Cohomology for Groups*.

Motivated by some problems in lattice field theory, we construct an action of the symmetric group  $\Sigma_{n+1}$  on the cochain complex  $C^n(G, A)$  (where  $G$  is a group and  $A$  is a  $G$ -module). We show that this action is compatible with the differential  $\partial$  and so we can define the symmetric cohomology  $HS^n(G, A)$ . The whole process is similar with the construction of the cyclic cohomology. We also extend our construction to some classes of Hopf algebras. (Received July 30, 2006)