1000-16-132 **Bertfried Fauser*** (`fauser@mis.mpg.de`), Max Planck Institut, Inselstrasse 22-26, D-04103 Leipzig, Germany. *Applications of Hopf algebra cohomology in quantum field theory and representation theory.*

We start with a connected bi-commutative (graded) Hopf algebra and its (multiplicatively written) cohomology. This allows to construct by means of a deformation of the Hopf algebra all products which emerge in pQFT. The cohomology allows a classification of such products. The same structure, if applied in the theory of symmetric functions, allows the simple derivation of classical results, eg the Newell-Littlewood theorem, and opens way for new branching rules for non semi simple groups, eg. affine groups.

[Joint work with: (QFT) Ch. Brouder, A. Frabetti, R. Oeckl, (sym. fun.) P.D. Jarvis] (Received August 22, 2004)