ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

7. Lie Groups and Lie Algebras

1991 MS Classification: 22E47

Casati, Paolo, University of Milan, Italy

α–stratified modules of real reductive groups

A module V of a reductive Lie algebra $\mathfrak{g}$ is said α–stratified if there exists a simple root α of $\mathfrak{g}$ such that $X_{\pm\alpha}$ act injective on V where $X_{\pm\alpha}$ are elements of $\mathfrak{g}$ spanning the $\pm\alpha$–root space $\mathfrak{g}_{\pm\alpha}$ respectively. The most simple α–stratified modules are those, which are not stratified for all but one simple root α. These modules can be seen as subquotients of some universal modules (defined in the talk) which are natural generalization of the Verma modules. In the talk will be examined which representations of the real reductive groups are α–stratified modules of this latter type. Moreover some preliminary results concerning the use of such modules in the classification of the unitary representations of the real rank one groups will be also presented.

Reference: V. Futorny; V. Mazorchuk, Structure of α-stratified modules for finite-dimensional Lie algebras I, J. Algebra **183** no.2 (1996), 456–482.