



THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Algebraic Geometry and Representation Theory Seminar

Room 261 ,Ziskind Building
on Wednesday, Oct 14, 2015
at 11:00

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Fusion product structure of Demazure modules

Abstract:

In this talk, we study Demazure modules which occur in a level l irreducible integrable representation of an untwisted affine Lie algebra. We also assume that they are stable under the action of the standard maximal parabolic subalgebra of the affine Lie algebra. We prove that such a module is isomorphic to the fusion product of "prime" Demazure modules, where the prime factors are indexed by dominant integral weights which are either a multiple of l or take value less than l on all simple coroots. Our proof depends on a technical result which we prove in all the classical cases and G_2 . We do not need any assumption on the underlying simple Lie algebra when the last "prime" factor is too small. This is joint work with Vyjayanthi Chari, Peri Shereen and Jeffrey Wand.