

1135-05-310

Pamela E. Harris* (peh2@williams.edu), 33 Stetson Ct, Bascom House Room 106C,
Williamstown, MA 01267. *Kostant's Partition Function*.

In this talk we introduce Kostant's partition function, which counts the number of ways to represent a particular weight (vector) as a nonnegative integral sum of positive roots of a Lie algebra (a finite set of vectors). This partition function is involved in the computation of weight multiplicities in the representation theory of finite-dimensional classical Lie algebras. However, the properties of this function can be studied independent of this setting via a combinatorial perspective. We will provide some recent results from undergraduate students at Williams College stemming from such a view and end with some open problems for further investigation. (Received August 23, 2017)