KHOA PHAM, University of Ottawa
On the Dynkin index of Lie algebras

In this talk, we define the notion of the Dynkin index for a representation of a simple finite-dimensional Lie algebra and discuss several known results of the theory. We will present new formulas for the Dynkin indices of exterior and symmetric powers of representations. As an application, we will explain how knowing the Dynkin indices for exterior powers of representations is nearly sufficient to determine the Dynkin indices for all finite-dimensional representations.