1056-16-927   **Vera Serganova*** (`serganov@math.berkeley.edu`), Department of Mathematics, UC Berkeley, Berkeley, CA 94720. *Associated variety of simple finite-dimensional modules over classical Lie superalgebras and Kac-Wakimoto conjecture.* Preliminary report.

In 1994 V. Kac and M. Wakimoto introduced the notion of degree of atypicality of a highest weight module for a Kac-Moody superalgebra. They conjectured that a finite-dimensional simple module has a non-zero superdimension iff its degree of atypicality is maximal possible.

In 2003 M. Duflo and myself defined the associated variety for a finite-dimensional module over a finite-dimensional Lie superalgebras and conjectured that the associated variety of a simple module depends only on its degree of atypicality.

In this talk I present a proof of both conjectures for classical Lie superalgebras. The proof is based on a generalization of Borel-Weil-Bott theorem for supergroups. (Received September 18, 2009)