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Irfan Bagci* (bagci@math.uga.edu), Department of Mathematics, University of Georgia,
Athens, GA 30602. *Cohomology and Support Varieties for Cartan Lie superalgebras.*

Let g be Cartan Lie superalgebra of type W or S . In this talk I will calculate the relative cohomology ring of g relative to the graded zero component and show that this ring is finitely generated. This allows one to define support varieties for finite-dimensional g -modules which are completely reducible over the graded zero component. We calculate the support varieties of all simple modules in this category. Remarkably our computations coincide with the prior notions of atypicality for Cartan type superalgebras due to Serganova. I will also present a new theorem on realizability of support varieties. The results about type W is joint work with Jonathan Kujawa and Daniel Nakano. (Received September 13, 2008)