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Skip Garibaldi, Robert M. Guralnick and **Daniel K. Nakano*** (nakano@math.uga.edu),
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Modules.*

In the representation theory of split reductive algebraic groups, the following is a well known fact: for every minuscule weight, the Weyl module with that highest weight is irreducible over every field. The adjoint representation of E_8 is also irreducible over every field. Recently, Benedict Gross conjectured that these two examples should be the only cases where the Weyl modules are irreducible over arbitrary fields. In this talk I will present our results which prove Gross' suggested converse to these statements, i.e., that if a Weyl module is irreducible over every field, it must be either one of these, or trivially constructed from one of these. If time permits, I will also explain analogues for quantum groups at roots of unity. (Received September 08, 2016)