1037-20-221 **C. Ryan Vinroot*** (vinroot@math.arizona.edu), Mathematics Department, University of Arizona, 617 N. Santa Rita Ave., Tucson, AZ 85721. *Curtis-Alvis Duality and Real Representations of Finite Groups of Lie Type.* Preliminary report.

Curtis-Alvis duality is an order 2 isometry defined on generalized characters of finite groups of Lie type, which gives a natural one-to-one correspondence between regular characters and semisimple characters of these groups. It follows from the definition of Curtis-Alvis duality that real-valued generalized characters are mapped to real-valued generalized characters. We prove the stronger result that the character of an irreducible real representation of a finite group of Lie type is mapped under Curtis-Alvis duality to plus or minus the character of an irreducible real representation. This implies the result that the number of irreducible regular orthogonal (or symplectic, respectively) characters is equal to the number of irreducible semisimple orthogonal (or symplectic, respectively) characters of a finite group of Lie type. As an application, we extend a result of Dipendra Prasad, which states that the Frobenius-Schur indicator of any self-dual regular character of a finite group of Lie type is given by the central character evaluated at an order 2 element, which we prove also holds for semisimple characters. (Received February 03, 2008)