1035-Z1-415 **Thomas P Wakefield*** (twakefie@math.kent.edu), Department of Mathematical Sciences, Kent State University, P.O. Box 5190, Kent, OH 44242. *On a conjecture posed by Bertram Huppert.*

In the late 1990s, Bertram Huppert conjectured that the finite nonabelian simple groups are essentially determined by the set of their character degrees. Specifically, he conjectured that if G is a finite group and H a finite nonabelian simple group such that the set of character degrees of G and H are the same, then $G \cong H \times A$, where A is an abelian group.

Huppert verified the conjecture on a case-by-case basis for many nonabelian simple groups, including the Suzuki groups, many of the sporadic simple groups, and a few of the simple groups of Lie type. His method of proof relies on a five step procedure that ultimately depends upon special properties of the set of character degrees of the simple group in question. These properties are not shared by more than a few specific simple groups of Lie type. We will examine the possibility of proving the conjecture for the simple groups of Lie type of rank 2 and the challenges that arise for these families of simple groups. (Received September 06, 2007)