W. Willems. *Separation of Characters.*

By $B_0(G)_p$ we denote the principal p-block for a prime p and by $\Phi_p(G)$ the complex character associated to the principal indecomposable module with respect to p, i.e., $\Phi_p(G)$ is the complex character afforded by the projective cover of the trivial module in characteristic p. Let $\mathrm{Irr}(B_0(G)_p)$ be the set of all $\chi \in \mathrm{Irr}(G)$ belonging to $B_0(G)_p$. Recently, Bessenrodt and Zhang proved the following:

THEOREM. *A group G is nilpotent if and only if*

$$\mathrm{Irr}(B_0(G)_p) \cap \mathrm{Irr}(B_0(G)_q) = \{1_G\}$$

for all primes p, q with $p \neq q$.

Now, let $\mathrm{Irr}(\Phi_p(G))$ denote the set of all $\chi \in \mathrm{Irr}(G)$ which occur as constituents in $\Phi_p(G)$. Note that $\mathrm{Irr}(\Phi_p(G))$ is a subset of $\mathrm{Irr}(B_0(G)_p)$. The talk is concerned with the following result which is joint work with C. Martínez-Pérez .

THEOREM. *If G is a finite non-abelian simple group then the following conditions are equivalent.*

(a) $\mathrm{Irr}(B_0(G)_p) \cap \mathrm{Irr}(B_0(G)_q) = \{1_G\}$ *for all primes p, q with $p \neq q$.*
(b) $G = PSL(2, r)$ *where r is a Mersenne prime.*
(c) G *has a 2-complement.*