1014-16-703 **Eli Aljadeff**, **Jack Sonn** and **A. R. Wadsworth*** (arwadsworth@ucsd.edu). *Projective Schur Groups over Henselian Fields.*

A projective Schur algebra over a field F is a central simple F-algebra A which is spanned as an F-vector space by a subgroup $\mathcal{G}$ of the units A^* of A such that $F^*\mathcal{G}/F^*$ is finite. Let $G = F^*\mathcal{G}/F^*$. The projective Schur group $PS(F)$ is the subgroup of the Brauer group $Br(F)$ consisting of classes of projective Schur algebras.

When A is an abelian projective Schur algebra, i.e., G is abelian, the commutator yields a canonical nondegenerate symplectic pairing on G. If B is a reduced but not abelian projective Schur algebra, it typically has abelian projective Schur subalgebras. The pairings for the subalgebras and their associated totally isotropic subspaces help to understand the subalgebra structure of B.

When F is a Henselian valued field with residue field k, the valuation induces a direct sum decomposition of $Br(F)$. In terms of this decomposition we give a complete determination of the prime to char(F) part of $PS(F)$ (modulo $PS(k)$) when char(k) = char(F). This is applied to prove that whenever the residue field k is a local or global field, $PS(F) = \ker(Br(F) \to Br(L))$ for some field L algebraic over F. (Received September 22, 2005)