

Meeting: 1005, Newark, Delaware, SS 9A, Special Session on Arithmetic Groups and Related Topics

1005-20-140 **Louis H. Rowen*** (rowen@macs.biu.ac.il), Mathematics Department, Bar-Ilan University,
Ramat-Gan, Israel. *A nonsolvable factor of the multiplicative group of a quaternion algebra.*

(Joint work with A. Rapinchuk and Y. Segev) Last year, while investigating the Whitehead group, Prasad, Rowen, and Segev showed that if D is a quaternion F -division algebra of characteristic > 2 and $e \in D \setminus F$ is an element whose square is in F , then the multiplicative group D^\times/N_e is abelian by nilpotent by abelian, and in particular is a solvable group, where N_e denotes the normal subgroup of D^\times generated by e . A key step involved the factor group D^\times/N , where N is the normal subgroup generated by 1 and $\mathrm{SL}_1(D)$. However, we provide a counterexample in characteristic 0, i.e., for which D^\times/N_e is not solvable. (Received February 06, 2005)