

Abstract Submitted  
for the MAR08 Meeting of  
The American Physical Society

**Magnetic Moment of MnSi**<sup>1</sup> ROBERT COLLYER, DANA BROWNE,  
Louisiana State University — MnSi is a metallic helimagnet below 29 K. Density  
functional theory predicts that it has a moment of  $1.0 \mu_B/\text{Mn}$ , which is much larger  
than the measured value of  $0.4 \mu_B/\text{Mn}$ . By adding a Hubbard-U correction, we  
have found a ground state with a moment consistent with the experimental value.  
These solutions possess a novel quadrupolar spin ordering. We discuss their behavior  
under pressure and in a magnetic field.

<sup>1</sup>This work is supported in part by NSF-OCI Grant No. 043812 and a Faculty  
Research Grant from the LSU Office of Sponsored Research.

Robert Collyer  
Louisiana State University

Date submitted: 15 Nov 2007

Electronic form version 1.4