

Meeting: 999, Nashville, Tennessee, SS 4A, Special Session on Universal Algebra and Lattice Theory

999-03-247 **William McCune*** (mccune@mcs.anl.gov), MCS-221, Argonne National Laboratory, Argonne,
IL 60516. *Automatic Proofs and Countermodels With Application to Short Single Axioms.*

The current capabilities of automated equational deduction are briefly described, with focus on first-order equational proofs and finite models. Applications of automated deduction to the search for short single axioms for lattice theories are described. Short single axioms are presented for lattice theory, ortholattices, orthomodular lattices, and modular ortholattices. (Received August 24, 2004)