1014-11-330   **Lee Stemkoski*** (`lee.stemkoski@dartmouth.edu`), Department of Mathematics, 6188 Bradley Hall, Dartmouth College, Hanover, NH 03755. *A Trace Formula for Compact Quotients of SL(3,R) and Weyl's Law.*

The Selberg trace formula has been widely studied for quotients of SL(2,R). In this talk we will describe a new trace formula for operators on compact spaces that are the quotient of SL(3,R) by an arithmetic group; this formula can be expressed using basic algebraic number theory. We then outline how the trace formula can be used in a number-theoretic proof of Weyl's law on the asymptotic distribution of eigenvalues of the Laplacian. (Received September 09, 2005)